# HINTS FOR PAINTERS DECORATORS & PAPERHANGERS

GODFREY

# HINTS FOR PAINTERS DECORATORS AND PAPER-HANGERS

CONTAINING INSTRUCTIONS AND SUGGESTIONS FOR HOUSE PAINTING, STENCILING, GILDING, GRAINING, PAPER-HANGING, ETC.

PREPARED WITH SPECIAL REFERENCE TO THE WANTS OF AMATEURS

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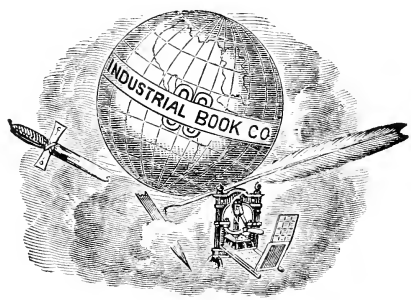
# HINTS FOR PAINTERS, DECORATORS AND PAPER-HANGERS



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# PREFACE

THIS little book is intended to furnish the practical house-painter and the man who wants to paint and decorate his own home with information sufficient to enable him to understand his business intelligently. One of its objects is to deal with the nature, characteristics, qualities, and defects of the materials employed by the class of artisans for whom it is written; and to limited extent this has been done with as little theory as possible; high-sounding technicalities have also been avoided wherever the author has been able to make himself understood without them.

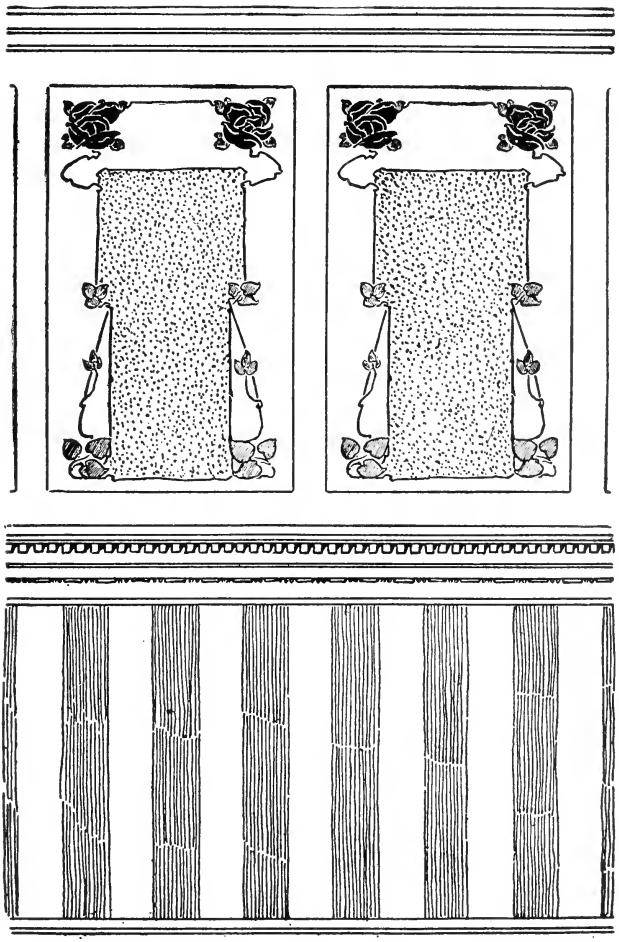
It is thought the young painter may derive great profit and advancement from a careful study of this book, as the hints, rules, and recipes it contains are reliable, practical, and of every-day use.

The directions and the many fine illustrations on paper-hanging and decoration make this subject as plain as it is possible to present it.

The author has consulted many works on the subject, and is indebted to many of them for much of the matter contained, among which may be mentioned "Building Construction and Materials," "House-Painter's Hand-Book," "Artists' and Tradesmen's Companion," "Painter's Guide," Chevreul's "Oils and Paints," Jenning's "Wall Hangings," Brown's "Decoration," and several other works of more or less note. To this has been added many things discovered by the actual experience of the writer.

THE AUTHOR.

New York, November 13, 1911.



DAINTY WALL TREATMENT SUITABLE FOR SUMMER COTTAGE.

# HINTS FOR PAINTERS

## AND PAPER-HANGERS.

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THERE is a general belief abroad that anybody can execute all that is required of a house-painter. This is a very popular error; it is not so easy to prepare and apply a coat of paint in a thorough workmanlike manner as some may imagine. It is still less easy to paint in parti colors; and very few can produce a good piece of graining.

The painter should not only be acquainted with the method of applying paint when it is provided for him, and the brush placed in his hand, but he should know the composition of the colors; the manner in which they are made, and the colors which must harmonize with each other when they are associated together. These observations being of a practical nature and the result of experience, are commended for his perusal and study.

**Preparation.**—All surfaces painted should be first thoroughly dry and free from dust. All heads of nails should be punched or "set" below the surface of the wood, and after the priming is dry, the holes formed by the heads, as well as all cracks, defects, etc., should be filled up with putty made of raw linseed oil and whiting. To prevent knots or

"fat" spots from showing through, they should receive two coats of shellac varnish, and when dry rubbed down with sand-paper. The shellac should be applied with a small brush. It dries soon and may be painted over as soon as dry. Shellac prepared this way is called "knotting," and can be purchased wherever painters' materials are kept for sale.

**Materials.**—The principal materials used for painting, *i.e.*, white lead and oxide of zinc, are so well known that it is unnecessary to allude particularly to their manufacture at present. Before using them they should be mixed with pure raw linseed oil. Turpentine may be used in cold whether to make the paint work easy, as the oil is apt to chill, which thickens it and makes it difficult to apply. In warm weather, however, turpentine should not be used in priming any parts where the sun shines upon. In cold weather it is always necessary to use litharge or some other drier; or the work will remain a long time before it hardens; in summer, however, driers in most cases are unnecessary, for if the wood to be painted is as well seasoned as it ought to be there is little danger of the paint being washed off by rain, as it will mostly be absorbed in the surface.

To make satisfactory work it is imperative that all cans, pots and brushes used in painting be perfectly clean at the start, and kept so whenever the conditions will permit. A marble slab and muller will be required to grind the finer colors used. Sometimes a small cast-iron mill will be found useful not only to grind colors; but to pass the tinted color through, so that it may be thoroughly mixed. It is scarcely necessary to say that it is presumed the workman will know what brushes he will require according to the work he has in hand. His large ground paint brush, called a "pound-

6-0 Brush
Sash Tool
Method of Bridling a Brush
Flat Wall Brush
How to Hold the Brush

brush;" his half-size, for smaller work; his fitch and sash tools, duster, pallet, putty and hasp knives; oval and flat varnish brushes, varnish-pot, step-ladders and long ladders, mahl-stick, pallet-board, gilding-knife, camel and sable hair-pencils, whitewash brushes, jack for window work, cushion, tip-pole, etc., etc.

Large brushes, such as 6-o size, should be bridled when new by winding good twine around them about one-third up the length of the bristles, and as the brush wears, this binding can be unwound. Care should be taken to use the brushes so that they will have a flat wedge-shaped point, straight on the edge. This can be done by holding the brush always in one position. If brushes are turned round and round in the hand while in use, they wear round and stubby on the point and soon become useless for fine or smooth work.

Brushes that are in use every day should be placed in water half the depth of the bristles at night, taking care that brushes containing different colors do not come in contact with one another. If they are to be laid aside for any length of time, however, they should be washed with warm water and soap after being thoroughly cleansed with turpentine, and laid away in a moist place.

As a general thing it is better to buy putty already made at a regular paint store, where you may depend upon its being made of good whiting and linseed oil than to make it. Putty should not be used until the work has been primed, for new paint holds the putty very firmly.

White lead is to be judged of by being well ground and possessing the mellowness given to it by age.

It is well known amongst painters that the best article is the most economical, as it works out with more ease, and repays the difference of cost in its better appearance and extra durability. Linseed oil is also better for having due

age, for the same reasons as the white lead, working with softness and advantage after parting with the water, which is generally combined with new oil.

In most cases *driers* are added to paints to cause them to dry more quickly, and a *solvent* is sometimes required to make the paints work more freely. When the color required differs from that of the main paint used, the desired tint is obtained by adding a staining or coloring pigment. The materials generally employed may, for convenience, be classed as follows:

**Bases.**—White lead, red lead, zinc white, oxide of iron. *Vehicles.*—Oils, spirits of turpentine. *Solvents.*—Spirits of turpentine. *Driers.*—Litharge, acetate of lead, sulphate of zinc and binoxide of manganese, red lead, etc. *Coloring Pigments.*—Ochres, lampblack, umber, sienna, and many metallic salts that will be hereinafter mentioned

White lead may be obtained either pure or mixed with various substances, such as sulphate of baryta, sulphate of lead, whiting, chalk, zinc white, etc. These substances do not combine with oil as well as does white lead, nor do they so well protect any surface to which they are applied. Sulphate of baryta, the most common adulterant, is a dense, heavy, white substance, very like white lead in appearance. It absorbs very little oil, and may frequently be detected by the gritty feeling it produces when the paint is rubbed between the finger and thumb.

**White Lead** is sold either dry, in powder or lump, or else ground in oil in a paste containing from 7 to 9 per cent. of linseed oil, and more or less adulterated, unless specially marked "genuine." When slightly adulterated with a very white sulphate of baryta, like that of the Tyrol, the mixture is considered preferable for cer-

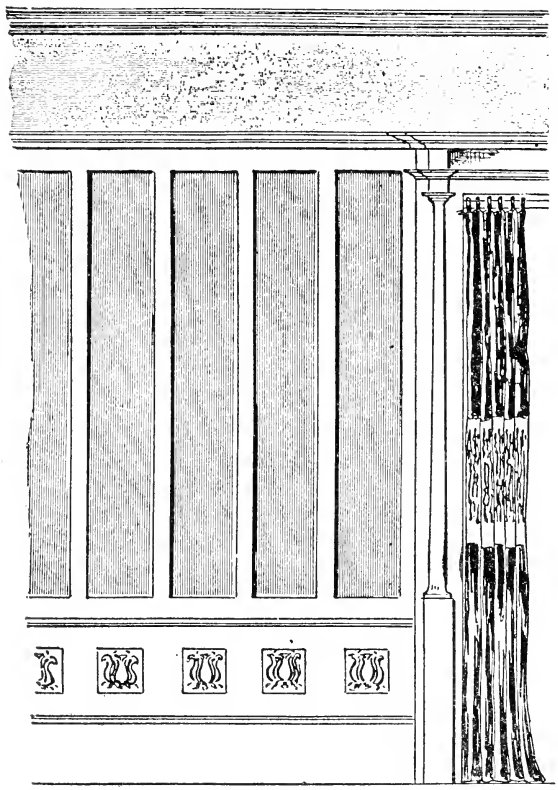
ain kinds of work, as the barytes communicates opacity to the color and protects the lead from being speedily darkened by sulphurous smoke or vapors. White lead improves by keeping, and when of good quality, will go much further and last much better than when employed fresh; moreover, paint made with new lead has a tendency to become yellow. It should not be exposed to the air or it will turn grey.

Of all the bases used for paints, white lead is the most commonly used, and for surfaces of wood it affords in most cases the best protection, being dense, of good body, and permanent. It has the disadvantage, however, of blazening when exposed to sulphur acids, and of being injurious to those who handle it.

Red lead is produced by raising *massicot* (the commercial name for oxide of lead) to a high temperature, short of fusion, during which it absorbs oxygen from the air and is converted into red lead or *minium*, an oxide of lead. The color is lasting, and is unaffected by light when it is pure and used alone, but any preparation containing lead or acids mixed with it deprive it of color, and impure air makes it black. It may be used for a drier, as it possesses many of the properties of litharge; it is also often employed in painting wrought iron work, to which it adheres with a tenacity not equalled by any other paints; it is sometimes objected to for this purpose, on the ground that galvanic action is set up between the lead and the iron. It is also frequently used for priming on wood work, and is especially adapted for hard woods. It is frequently adulterated with brick dust; this may be detected by heating the powder in a crucible, and treating it with dilute nitric acid; the lead will be dissolved but the brick dust will remain. It is also adulterated with colcother, a sesquioxide of iron. Sulphide of antimony, or antimony vermilion, is sometimes used as a substitute for red lead. It is sold in a

very fine powder, without taste or smell, and which is insoluble in water, alcohol, or essential oils. It is but little acted upon by acids, and is said to be unaffected by air or light. It is adapted for mixing with white lead, and affords an intensely bright color when ground in oil.

Oxide of zinc, or zinc white, is durable in water or oil; it dissolves in hydrochloric acid; it does not blacken in the presence of sulphuretted hydrogen; and it is not injurious to the men who make it, or to the painters who use it; but on the other hand, it does not combine with oil well, and is wanting in body and covering power, and is difficult to work. It is easily acted upon by the carbonic acid in rain water, which dissolves the oxide, and it therefore is unfit for outside work. The acids contained in unseasoned wood also have a great effect upon it. When pure and used for inside work, it retains its color well, and will stand washing for many years without losing any of its freshness. When dry it becomes very hard, and will take a fine polish. This paint is suitable for any place that is subjected to vapors containing sulphur, or in places where foul air is emanated from decaying animal matter. In such positions, of course, zinc paints should not be mixed with "patent" or other driers which contain lead. The best driers to employ with it are sulphate of manganese and sulphate of zinc. This white is recommended as being preferable to white lead for painting on a dark ground. The reason of this is that the soap formed by the combination of the lead and oil in lead paints is semi-transparent, and the dark ground shows through it. The want of density, however, in zinc paints, is a great drawback to their use, and the purest zinc oxide is not always the best for paint on account of its low specific gravity; and in this respect, the American zinc whites, which are frequently very pure, do not generally give as good satisfaction as the zinc whites made in Belgium.



The tall panels should be filled in with a bright red or a strong yellow tapestry in a single color, or a figured yellow tapestry having a silk damask effect The woodwork is intended to be finished in deep ivory, with a stenciled design in gold on the square panels in the base.

The frieze should be very light in tone, preferably an ivory colored burlap or buckram.

**Vehicles.** – Oils are divided into two classes—fixed oils and volatile oils. Fixed oils are extracted by pressure from vegetable substances, they are of a fatty nature, do not evaporate in drying, and will bear a temperature short of 500° Fahr., without decomposing. They are subdivided into drying oils, which become thick upon exposure to air. Of these, linseed oil is most commonly used as an ingredient for paint. Its qualities when pure are excellent, and it may be considered the best of all oils for use in paint, putty, and other similar substances. It oxidizes and becomes thick upon exposure to the air. This property is very much increased by adding other substances to it and boiling them together. It is superior in drying powers, tenacity, and body to any other fixed oil. The best oil comes from the Black Sea and the Baltic; that from the East Indian seed is inferior, as the seed is less carefully cleaned, and contains too much stearine. Raw linseed oil is clear and light in color, works smoothly, and is used for internal works, for delicate tints, and for grinding up colors. Boiled oil is much thicker, darker, and more apt to clog. It is used for outside work, as its greater body and rapidity in drying make it a quicker and more efficient protection.

**Volatile Oils** are generally obtained by distillation, and have an odor resembling that of the plant from which they are obtained. They are, as a rule, colorless at first, but upon exposure to air and light they become darker, thicker, and eventually are converted into a kind of resin. Spirits of turpentine is the best variety of this class for mixing with ordinary paints. Naptha and benzine are sometimes used instead of turpentine, but not often, and their use is not recommended when the latter can be obtained. Good spirits of turpentine is lighter in weight and more inflammable than bad. It is

colorless and has a pleasant pungent smell, whereas the smell of inferior qualities is disagreeable. It is used as a solvent for resins and other substances in making varnishes; also in paint to make it work more smoothly. It is useful also in flatting coats, but will not stand exposure to the weather.

**Driers.**—Driers are substances added to paint in order to cause the oils to thicken and solidify more rapidly. The action of these substances is not thoroughly understood. Chevreuil has shown that the drying of linseed oil is caused by the absorption of oxygen; and there can be no doubt that for the most part driers act as carriers of oxygen to the oil, a very small quantity producing considerable effects.

The best driers are those which contain a large proportion of oxygen, such as litharge, acetate of lead, red lead, sulphate of zinc, verdigris, etc. They are sometimes used to improve the drying qualities of the oil with which the paint is mixed, or they may themselves be ground up with a small quantity of oil, and added to the paint just before it is used.

Litharge or oxide of lead is the drier most commonly used, and is produced in extracting lead from its ores. It can be produced on a small scale by scraping off the dross which forms on molten lead exposed to a current of air. *Massicot* is a superior kind of litharge, being produced by heating lead to an extent insufficient to fuse the oxide. Sugar of lead, or, as it is more frequently called, acetate of lead, ground in oil, and copperas and white vitriol (sulphate of zinc), are also used as driers, especially for light tints. Oxide of manganese is quicker in its effects, but is of a very dark color, and seldom used except for deep tints. Japanners' gold size and verdigris (acetate of copper) are also much used for dark colors. Care must be taken not to apply too much of the size, or it will make the paint brittle. Red lead (oxide of lead) is often

used as a drier when its color will not interfere with the tint required. It is not so rapid in its action as litharge or massicot. Sulphate of manganese is the best drier for zinc white, about 6 or 8 ounces only being used for 100 lbs., of ground zinc white paint. The manganese should be mixed with a small quantity of the paint first, and then added to the bulk. If great care be not taken in mixing the drier the work will be spotted. Sulphate of zinc is also a good drier for zinc paint.

Patent driers contain oxidizing agents, such as litharge or acetate of lead ground and mixed in oil, and therefore in a convenient form for immediate use. There is great danger, however, in using such driers, unless they are of the best quality from a reliable maker. Some of the inferior descriptions depend for their drying qualities upon lime.

The following points should be observed in using driers:—

1st. Not to use them unnecessarily with pigments which dry well in oil color.

2d. Not to employ them in excess, which would only retard the drying.

3d. Not to add them to the color until about to be used.

4th. Not to use more than one drier to the same color.

5th. To avoid the use of patent driers, unless known to be of good quality.

6th. To avoid the use of driers in the finishing coat of light colors, as they are liable to injure the color.

**Coloring Pigments.**—It will be impossible in a small work of this sort to give anything like a complete list of the pigments used to produce the colors and tints used by the house painter and decorator. A few of the most useful may, however, be mentioned. It is not proposed to give a detailed description of them, but merely to distinguish those that are

injurious from the others. Many of these, such as the ochres, umbers, etc., are from natural earths; others are artificially made. They may generally be purchased either in the form of dry powder or ground in oil.

**Blacks.**—Lampblack is the soot produced by burning oil, resin, small coal, resinous woods, coal tar or tallow. It is in the state of very fine powder; works smoothly; is of a dense black color and durable, but dries very slowly in oil.

Vegetable black is a better kind of lampblack made from oil. It is very light, free from grit, and of a good color. It should be used with boiled oil, driers, and a little varnish. Raw linseed oil or spirits of turpentine keeps it from drying.

Ivory-black is obtained by calcining waste ivory in close vessels and then grinding. It is intensely black when properly burned. Bone-black is inferior to ivory-black, and prepared in a similar manner from bones. Blue-black and Frankfort black of the best quality are made from vine twigs; inferior qualities from other woods charred and reduced to powder. In Europe some other blacks are used, but we seldom meet with them in this country.

**Blues.**—Prussian blue is made by mixing prussiate of potash with a salt of iron. The prussiate of potash is obtained by calcining and digesting old leather, blood, hoofs, or other animal matter with carbonate of potash and iron filings. This color is much used, especially for dark blues, making purples, and intensifying black. It dries well with oil. Slight differences in the manufacture cause considerable variation in tint and color, which leads to the material being known by different names—such as Antwerp blue, Berlin blue, Hærlem blue, Chinese blue, etc. Indigo is produced by steeping certain plants in water, and allowing them to ferment. It is a transparent color; works well in oil or

water, but is not durable, especially when mixed with white lead.

Ultramarine was originally made by grinding the valuable mineral *Lapis lazuli.* Genuine ultramarine so made is very expensive, but artificial French and German ultramarines are made of better color, and cheaply, by fusing and washing and reheating a mixture of soda, silica, alum, and sulphur. This blue is chiefly used for coloring wall papers.

Cobalt blue is an oxide of cobalt made by roasting cobalt ore. It makes a beautiful color, and works well in water or oil.

Smalt, Saxon blue and Royal blue are colored by oxides of cobalt.

There are a few other blues, such as Celestial or Brunswick blue, damp blue and verditer, that are chemical compounds, compounds of alum, copper, lime, and other substances; but they are so seldom used in this country that it is unnecessary to describe them in detail.

**Yellows.**—Chrome yellows are chromates of lead, produced by mixing dilute solutions of acetate or nitrate of lead and bichromate of potash. This makes a medium tint known as "middle chrome." The addition of sulphate of lead makes this paler, when it is known as "lemon chrome," whereas the addition of caustic lime makes it "orange chrome" of a darker color. The chromes mix well with oil and with white lead either in oil or water. They stand the sun well, but like other lead salts, become dark in bad air. Chrome yellow is frequently adulterated with gypsum.

Naples yellow is a salt of lead and antimony, supposed to have been originally made from a natural volcanic product at Naples. It is not so brilliant as chrome, but has the same characteristics. King's yellow is made from arsenic, and is

therefore a dangerous color to handle, or use for internal work. It is not durable, and it injures several other colors when mixed with them. Chinese yellow, arsenic yellow, and yellow orpiment are other names for this yellow.

Yellow ochre is a natural clay colored by oxide of iron, and found abundantly in many parts of the world. It is not very brilliant, but is well suited for distemper work, as it is not affected by light or air. It does not lose its color when mixed with lime washes as many other colors do. There are several varieties of ochres, all having the same characteristics differing only in color which varies from a golden to a dark brown.

**Terra De Sienna,** or raw Sienna, is a clay, stained with oxides of iron and manganese, and of a dull yellow color. It is durable both in oil and water, and is useful in all work, especially in graining.

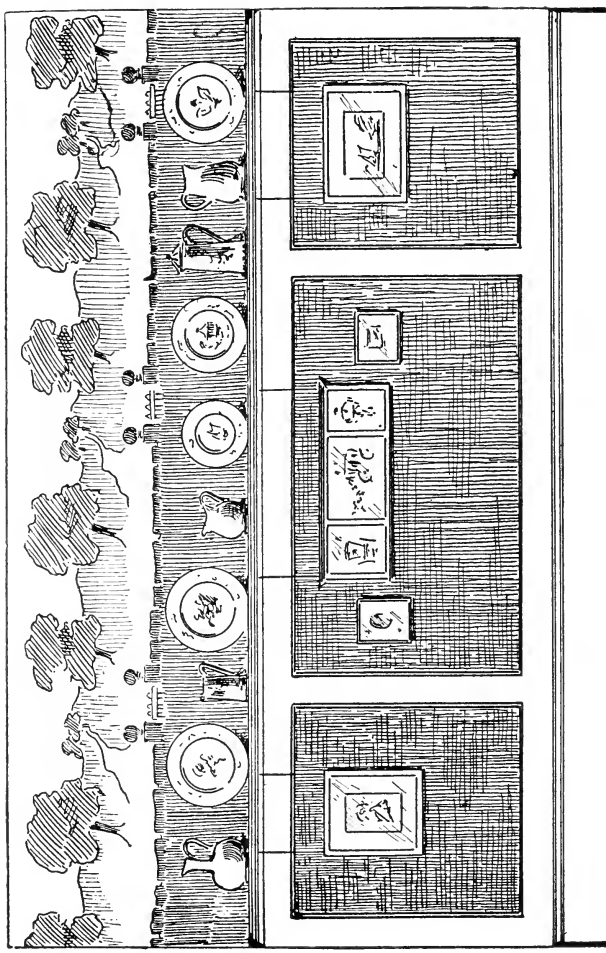
**Browns.**—Browns generally owe their color to oxide of iron. Raw umber is a clay similar to ochre colored by oxide of iron. The best comes from Turkey; it is very durable both in water and in oil; does not injure other colors when mixed with them.

**Burnt Umber** is the last mentioned material burnt to give it a darker color. It is useful as a drier, and in mixing with white lead to make a stone color.

**Vandyke Brown.**—This color is an earthy dark brown mineral; it is durable both in oil and water, and is frequently employed in graining.

**Purple Brown** is of a reddish-brown color. It should be used with boiled oil—and a little varnish and driers for outside work.

**Burnt Sienna** is produced by burning raw sienna. It is the best color for shading gold.



AN EFFECTIVE SCHEME OF WALL DECORATION FOR DINING ROOM

**Brown Pink** is a vegetable color often of a greenish hue. It works well in water and oil, but dries badly, and will not keep its color when mixed with white lead. Spanish brown and brown ochre are clays colored naturally by various oxides.

**Reds.**—Carmine, made from the cochineal insect, is the most brilliant red color known. It is, however, too expensive for ordinary house painting, and is not durable. It is sometimes used for inside decoration.

**Red Lead.**—This color has already been described on page 11.

**Vermilion.**—This is a sulphide of mercury in a natural state as cinnabar. The best comes from China. Artificial vermilion is also made both in China and in this country from a mixture of sulphur and mercury. Genuine vermilion is very durable, but when mixed with red lead, as it is sometimes, it will not stand the weather. It can be tested by heating in a test tube; if genuine it will entirely volatilize. German vermilion is the tersulphide of antimony, and is of an orange-red color.

**Indian Red.**—This color is a ground hematite ore brought from Bengal; it is sometimes made artificially by calcining sulphate of iron. The tints vary, but a rosy hue is considered the best. It may be used with turpentine and a little varnish to produce a dull surface, drying rapidly, or with boiled oil and a little driers, in which case a glossy surface will be produced, drying more slowly.

**Chinese Red** and Persian red are chromates of lead, produced by boiling white lead with a solution of bichromate of potash. The tint of Persian red is obtained by the employment of sulphuric acid.

**Venetian Red** is obtained by heating sulphate of iron produced as a waste product at tin and copper works. It

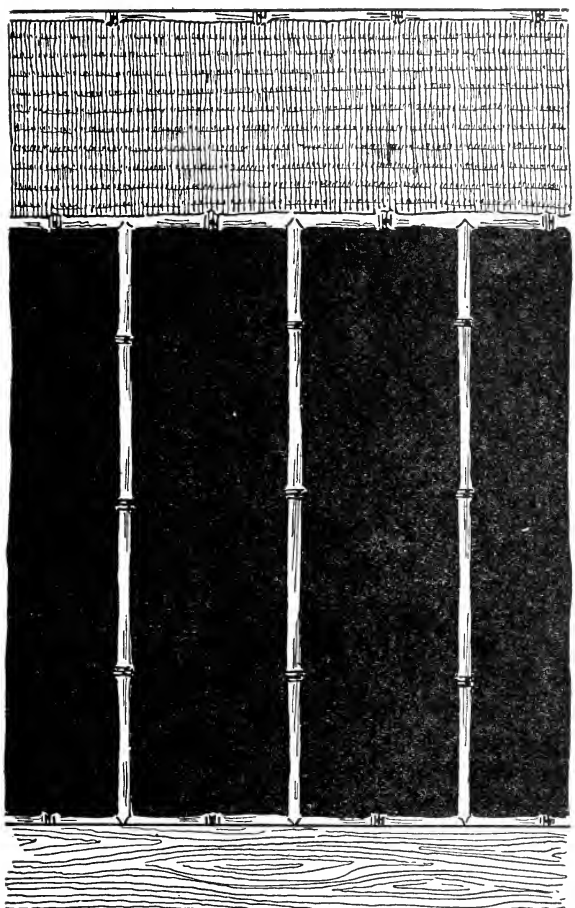
is often adulterated by mixing sulphate of lime with it during the manufacture. When pure, it is often called "bright red." Special tints of purple and brown are frequently required, which greatly enhance the value of the material. These tints should be obtained in the process of manufacture, and not produced by mixing together a variety of different shades of color. When the tint desired is attempted to be obtained by this latter course it is never so good, and the materials produced are known in the trade as 'faced colors,' and are of inferior value.

**Rose Pink.**—This is made of a sort of chalk or whiting stained with a tincture of Brazil wood. It fades very quickly, but it is used for paperhangings, common distemper, and for staining cheap furniture.

**Lakes.**—These are made by precipitating colored vegetable tinctures by means of alum and carbonate of potash. The alumina combines with the organic coloring matter and separates it from the solution. The tincture used varies in the different descriptions of lake. The best, made from cochineal or madder, is used for internal work. Drop lake is made by dropping a mixture of Brazil wood through a funnel on to a slab. The drops are dried and mixed into a paste with gum water. It is sometimes called "Brazil wood lake." Scarlet lake is made from cochineal; so also are Florentine lake, Hamburg lake, Chinese lake, Roman lake, Venetian lake and Carminated lake.

**Orange.**—Chrome orange is a chromate of lead, brighter than vermillion, but less durable. Orange ochre is a bright yellow ochre burnt to give it warmth of tint; it dries and works well in water or oil, and is very durable. It is known also as Spanish ochre. Orange red is produced by a further oxidation than is required for red lead. It is a brighter and better color.

**Greens.**—These, of course, may be made by mixing blue and yellow together, but such mixtures are less durable than those produced direct from copper, arsenic, etc. The latter are, however, objectionable for use in distemper or on wall papers, as they are very injurious to health. Brunswick green of the best kind is made by treating copper with sal-ammoniac. Chalk, lead and alum are sometimes added. It has rather a bluish tinge; dries well in oil, is durable, and not poisonous. Common Brunswick green is made by mixing chromate of lead and Prussian blue with sulphate of baryta. It is not as durable as real Brunswick green. Mineral green is made from bi-basic carbonate of copper; it weathers well. Verdigris is acetate of copper. It furnishes a bluish-green color, durable in oil or varnish, but not in water; it dries rapidly, but requires great care in using owing to its poisonous qualities. Green verditer is a carbonate of copper and lime; is not very durable. Prussian green is made by mixing different substances with Prussian blue. There are a number of other greens made from copper, but they all possess in a greater or lesser degree, the same qualities as the foregoing. Emerald or Paris green is made of verdigris mixed with a solution of arsenious acid. It is of a very brilliant color, but is very poisonous; is difficult to grind, and dries badly in oil. It should be purchased ready ground in oil, as in that case the poisonous particles do not fly about, and the difficulty of grinding is avoided. Scheele's green and Vienna green are also arseniates of copper, and highly poisonous. Chrome green should be made from the oxide of chromium, and is very durable. An inferior chrome green is made, however, by mixing chromate of lead and Prussian blue, as above mentioned, and is called Brunswick green. The chrome should be free from acid or the color will fade; it may be tested by placing it for several days in strong sun-light.



DECORATION OF DEN OR SMOKING ROOM.

**Lower** wall covered with dark red burlap, divided into **panels** by bamboo strips; upper third hung with coarse Jap**anese** matting.

**Proportions of Ingredients in Mixed Paint.**— The composition of paints should be governed by the nature of the material to be painted. Thus the paints respectively best adapted for painting wood and iron differ considerably. The kind of surface to be covered, *i. e.*, a porous surface requires more oil than one that is impervious. The nature and appearance of the work to be done. Delicate tints require colorless oil; a flatted surface must be painted without oil, which gives gloss to a shining surface. Again, paint used for surfaces intended to be varnished must contain a minimum of oil. The climate and the degree of exposure to which the work will be subjected; thus, for outside work boiled oil is used, because it weathers better than raw oil. Turps is avoided as much as possible, because it evaporates and does not last; if, however, the work is to be exposed to the sun, turps are necessary to prevent the paint from blistering. The skill of the painter also affects the composition; a good workman can lay on even coats with a smaller quantity of oil and turps than a man who is unskiltul; extra turps, especially, are often added to save labor. The quality of the materials makes an important difference in the proportions used. Thus more oil and turps will combine with pure than with impure white lead; thick oil must be used in greater quantity than thin oil. When paint is purchased ready ground in oil, a soft paste will require less turps and oil for thinning than a thick paste. Lastly, the different coats of paint vary in their composition; the first coat laid on to new work requires a good deal of oil to soak into the material; on old work the first coat requires turpentine to make it adhere; the intermediate coats contain a proportion of turpentine to make them work smoothly, and to the final coats the coloring materials are added, the remainder of the ingredients being

varied as already described, according as the surface is to be glossy or flatted.

The exact proportion of the ingredients best to be used in mixing paints varies according to their quality, the nature of the work required, the climate, and other considerations. The composition of the paint for the different coats also varies considerably. The proportions given in the following table, must, therefore, only be taken as an approximate guide when the materials are of good quality.

*Table showing the composition of the different coats of white paint, and the quantities required to cover* 100 *yards of newly worked pine.*

| | RED LEAD. | WHITE LEAD. | RAW LINSEED OIL. | BOILED LINSEED OIL. | TURPENTINE. | DRIERS. | REMARKS. |
|---|---|---|---|---|---|---|---|
| *Inside work,* 4 *coats not flatted.* | lbs. | lbs. | pts. | | | lbs. | |
| Priming..... | $\frac{1}{2}$ | 16 | 6 | — | — | $\frac{1}{4}$ | Sometimes more red lead is used and less drier. |
| 2d Coat..... | * | 15 | $3\frac{1}{2}$ | — | $1\frac{1}{2}$ | $\frac{1}{4}$ | |
| 3d Coat. ..... | — | 13 | $2\frac{1}{2}$ | — | $1\frac{1}{2}$ | $\frac{1}{4}$ | *Sometimes just enough red lead is used to give a flesh-colored tint. |
| 4th Coat..... | — | 13 | $2\frac{1}{2}$ | — | $1\frac{1}{2}$ | $\frac{1}{4}$ | |
| *Inside work,* 4 *coats and flatting.* | | | | | | | |
| Priming..... | $1\frac{1}{2}$ | 16 | 6 | — | $\frac{1}{2}$ | 1-8 | |
| 2d Coat..... | — | 12 | 4 | — | $1\frac{1}{2}$ | 1-10 | |
| 3d Coat..... | — | 12 | 4 | — | 0 | 1-10 | |
| 4th Coat..... | — | 12 | 4 | — | 0 | 1-10 | |
| Flatting ..... | — | 9 | 0 | — | $3\frac{1}{2}$ | 1-10 | |
| *Outside work* 4 *coats not flatted.* | | | | | | | When the finished color is not to be pure white, it is better to have nearly all the oil boiled oil. All boiled oil does not work well. For pure white a larger proportion of raw oil is necessary, because boiled oil is too dark. |
| Priming..... | 2 | $18\frac{1}{2}$ | 2 | 2 | — | 1-8 | |
| 2d Coat..... | — | 15 | 2 | 2 | $\frac{1}{2}$ | 1-10 | |
| 3d Coat,..... | — | 15 | 2 | 2 | $\frac{1}{2}$ | 1-10 | |
| 4th Coat..... | — | 15 | 3 | $2\frac{1}{2}$ | 0 | 1-10 | |

For every 100 square yards, besides the materials enumerated in the foregoing, 2½ lbs. of white lead and 5 lbs of putty will be required for stopping.

The area which a given quantity of paint will cover depends upon the nature of the surface to which it is applied, the proportion of the ingredients and the state of the weather. When the work is required to dry quickly, more turpentine is added to all the coats.

In repainting old work, two coats are generally required, the old painting being considered as priming. Sometimes another coat may be deemed necessary.

For outside old work exposed to the sun, both coats should contain one pint of turpentine and four pints of boiled oil, the remaining ingredients being as stated in the foregoing table. The extra turpentine is used to prevent blistering.

In cold weather more turpentine should be used to make the paint flow freely.

**Operations.**—All priming should be rubbed out as far as possible, for if it is flowed out loosely or laid on thick it will be apt to blister and run. In priming over spots, however, where *patching* is being done, it may sometimes be necessary to leave the coat thick or heavy, for new work can never be re-touched and look well, after the work is second coated or finished; for such re-touching would show and spoil the whole work. In priming the paint should flow easily, and the brush should be pressed on to the wood so that the paint will be forced into the pores. In all cases it is a great saving of time to cover as large a surface as convenient before smoothing or finishing off. All work on the same surface should be finished at the one application, if possible, for "laps"—which form the junctions of work done at different times—should be avoided wherever they can, as

they are sure to disfigure the work where they exist, Of course, it is sometimes impossible to avoid laps, but where they must occur, care should be taken to make the connection with as little "lap" as possible or it will be certain to show through the work when finished. The defect, if occurring during the second coating, will show much worse than in the priming coat.

In painting, like everything else, a system must be followed to make much headway. Experience, perhaps, is the only effective teacher in this matter; and any rules laid down by us will have but little effect, if the operator does not, or can not systematize. The workman who follows a system will do nearly twice as much work with less labor, than the man who works only by the rule of thumb. In painting blinds, lattices, railings, cut brackets or other similar work, some method of operation should be adopted. A little observation on the part of the operator, will soon teach him the best methods to adopt in doing any particular kind of work.

**Preparing the Work.**—In preparing work for painting, too much care cannot be exercised, as succeeding coats and the final result depend very much on the proper condition of the work when the priming coat is applied. First, all the rough places in the wood should be rubbed down with a block covered with sandpaper; and the mouldings and beads should be well cleaned out with sandpaper. Then (and this is a matter of prime importance) every knot, however small, every indication of sap on the wood, or discoloration of any kind, and every appearance of pitch or gum, should be carefully varnished over with white shellac varnish, if the work is to be finished in white or light tints—or with varnish made from unbleached or common shellac, if the work is to be finished in dark shades. The common shellac,

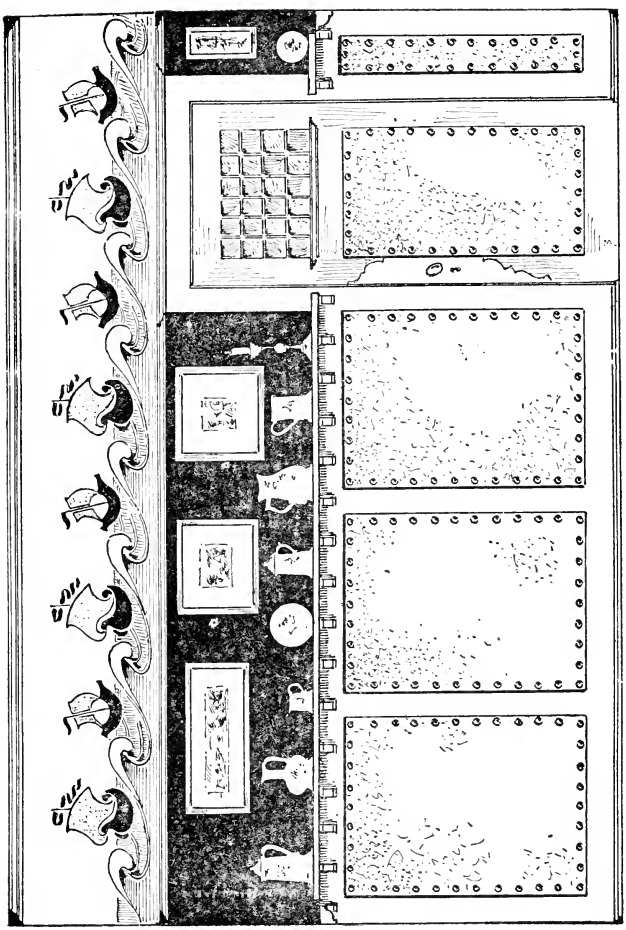
in the latter case, answers equally well with the bleached article, and at less cost. This should not, under any circumstances, be neglected, as it is impossible, in the nature of things, otherwise to make good work.

When work is to be finished with two coats, the putty used for stopping the nail-heads and other indentations should be made of white lead, worked up with common whiting to the proper consistency, and the filling should be done after the first coat shall have become well dried. When more than two coats are to be applied, the filling should be done between the first and second coats, with ordinary pure linseed-oil putty.

It should be adopted as a rule, never to apply pure white as a priming coat; no matter whether the work is to be finished with one or four coats, the result will always be more satisfactory if the first coat be stained. A little finely-ground lampblack answers as well for this as anything.

The only way to produce solid, uniform work, is by making every succeeding coat lighter in tint than the one which preceded it. This is especially the case with walls, and other extended flat surfaces. No matter what the finish is to be, the first coat should always be darker than the one which succeeds it; and the darker the shade of the finishing coat, the more important it is that this rule should be observed. If the work is to be finished with black, prime with black. If with green, let that be the color of all the preceding coats. If with blue, let that color be the ground work. What can be more stupid than applying to work which is to be finished in imitation of black walnut a priming coat of white? All work should be primed especially with regard to the finishing color.

There is not half enough of dark colors used in priming applications. Venetian red, finely ground in boiled oil,



DECORATIVE SCHEME ESPECIALLY APPROPRIATE FOR DEN IN SEASIDE HOUSE.

leeply stained with black—and used very thin, in order to stain the wood as much as possible—is the best first coat for work which is to be finished in imitation of black walnut or other dark wood. The succeeding coats should be as dark as may be with a view to the proper shade of ground-work for the graining. In such case, if (as must happen in the ordinary course of events) the work becomes bruised or "chipped"—by an accidental knock from a chair leg or other article of house furniture—the general appearance of it is little impaired thereby. Quite the contrary, however, is the case if the underneath coats are white. Then, an accident of the kind before mentioned, shows a white spot, which staringly proclaims the work to be a delusion and a sham. Dark colors, too, as the Venetian red before mentioned, make better foundations than white lead or zinc. They dry harder and "rub" better, and, what is most important, cost less.

This matter having been duly considered, let us now proceed to the coats succeeding the first. Before applying a second coat, the first should be carefully rubbed, and all the nail-heads and other indentations carefully stopped with pure linseed-oil putty—using for flat surfaces a square-bladed putty-knife. Puttying with the fingers should never be tolerated (good work is now the subject under consideration). This done, the whole should be carefully examined to ascertain if the oil in the former coat shall have revealed any resinous or pitchy spots, not previously covered with the shellac. These preliminaries being attended to, the work may be considered ready for a second coat. The directions as to rubbing with sandpaper are to be observed in all the succeeding coats. As a rule, on interior work, paint should never be applied to a surface which has not been previously rubbed.

Sandpaper for fresh work and pumice-stone for old work. Always distrust the education of a painter in his trade who goes to work without a lump of pumice-stone, a sheet of sandpaper, a putty-knife, and a rag to wipe off the spatters —sparks, as the Irish not inaptly call them. Apropos of spatters! Every painter has seen (the result too of unpardonable negligence) plates of glass so covered with spatters, that to remove them would require more time than would serve to paint the woodwork of a "full-trimmed" window.

In priming work which is to be finished in oak, finely-ground French ochre is recommended. The objection to this pigment, that it does not work smoothly and easily under the brush, has arisen from its coarseness. Finely ground in boiled oil, it works as smoothly as white lead, and makes an excellent foundation for the succeeding coats.

For walls the first coat should be as dark in shade and as thin as practicable, the object being to stain the plaster as much as possible. Indeed, if the whole mass of plaster could be stained through and through, it would be desirable to so stain it.

The use of glue in wall painting is of doubtful propriety. It should never, under any circumstance, be put on until after the second coat, and then rubbed on with a rag, very lightly. In first-class work, however, its use is not recommended.

Plaster mixed with weak glue-size—which prevents its setting too rapidly—is the best material for stopping walls preparatory to painting, and each coat of paint should be carefully rubbed with worn sand-paper, before the succeeding coat is put on. For preparing walls a small pocket-trowel will be found a most serviceable tool, or a trowel-shaped putty-knife, which article has come into general use.

The preparation of ceilings for whitewashing (or kalsomining as this operation is sometimes pretentiously called) is an operation requiring some skill and knowledge of "how to do it." A dirty ceiling, which has been subjected to successive coats of whitewash, whether of lime, or of whiting and glue-size, cannot be made solidly and smoothly white by additional whitewashing. The mass has become spongy, and sucks up the water so quickly that the material cannot be evenly distributed. In such case the only way is to begin anew, to go at once "down to hard pan" by removing all the previous applications by washing and scraping. This is best effected with a broad-bladed square-pointed putty-knife, keeping the ceiling wet meanwhile. Plaster (hard-finish) is not of uniform density, and some spots are much more absorbent than others. To remedy this a mixture of soft soap and alum, dissolved in water, should be applied with a broad kalsomine brush.

It is not assumed that mere verbal instructions can teach the art of whitening or tinting walls and ceilings in water-colors. To produce good results, great skill in preparing the materials and dexterity in manipulation are required; and such work should be intrusted only to competent hands. A mass of unsuitable material may be cheaply put upon a ceiling; but when the same shall require repainting, the cost of labor will be greater in removing the previous coating, than will be the whole cost of repainting. These remarks, too, apply equally to all kinds of painting; and reference is made to the whitening and tinting of ceilings only, because of the general impression that this kind of work may be performed by anybody.

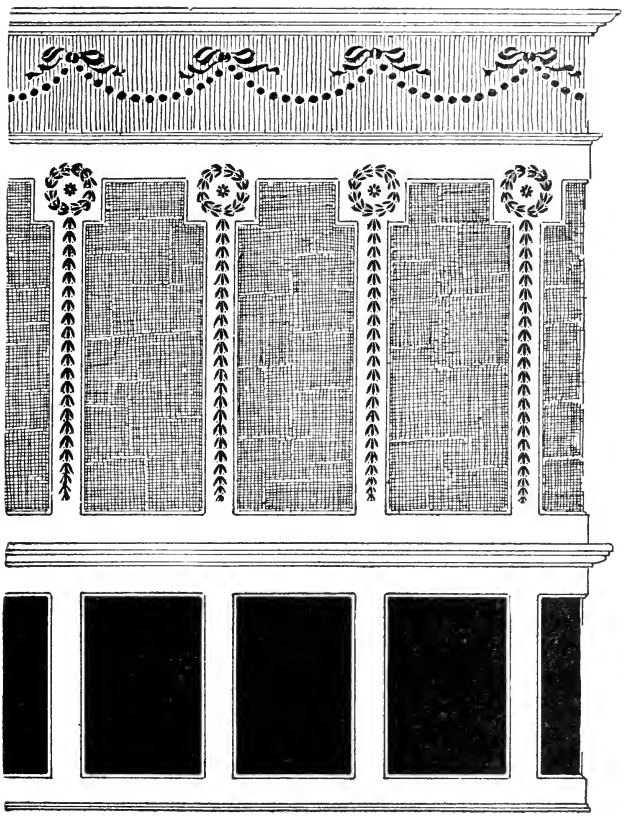
The materials and tools used in painting are too costly to wasted and worn by incompetent handling. "Painting just to keep the gardener or hostler out of idleness," will

prove in most cases a left-handed economy. Such experiments are prudent only when the services of skilled workman cannot be obtained.

**Taste in Color.**—In rooms to be lived in, simple white for color of walls and paint, as well as any extremely dark treatment, should be avoided. The walls of rooms should be such backgrounds as will best suit the complexions and dresses of the larger number of people. Delicate white intensifies by contrast any unpleasantness or want of perfection; extreme dark would make people look white and ghastly. Neutral colors will be found the best—generally some grey or cool color that will contrast with warmth of complexions. On no account let an absolutely pure color be used for general surfaces. Nature provides no such color in pigments. Her yellows are greenish or reddish, and so on. Nor does she use it to any extent in inanimate nature. So much so that you will find that if you have much difficulty in describing a color, you may be certain it is good; the more difficulty the more beauty. Nature trusts mainly to gradations of tone, using vivid color in small quantities only, as in the touches on bright flowers and butterflies. This teaching of nature will be found seconded in the pictures of the greatest artists, and in following such teaching, it is necessary to consider the object to which (in domestic work, say) the rooms are to be devoted. A drawing-room, it is agreed, should be light, festive and gay; dining-room at once more sober, and with more depth and warmth, as befits its uses. You must also consider the light and shade; openings, and the positions of them; for these may (or may not) effect for you contrast of tone, and may even touch the question of the good sense of your whole scheme of decoration.

In a lecture delivered before the British Architectural As-

sociation, on this subject, the lecturer suggested that in the treatment of a drawing-room the walls should be a light neutral grey, fawn color, or pale green (not dark, but not white). Dados are suitable for all rooms, even drawing-rooms. They may be made of wood, painted as the room doors, or of stamped leather, or of the French paper imitations of stamped leather. A frieze does not interfere with the heads of sitters, and adds much interest if it has its sentiment or story. If flowers form part of your decorations, have no relief, no imitation of nature's light and shade. A wall must be a wall; if, neglecting this, you introduce illusions to the eye, the sense of solidity will not be suggested. The Japanese decorate on correct principles, with truth to the idea derived from nature, and truth in art, adaptation of representation to materials and method. As regards the woodwork there should be no graining anywhere; its aspect, however well executed, is repulsive. Real woods are always beautiful. Plain painting may be darker or lighter than the general wall surfaces; both will look well. The doors may have stencilled decorations in angles of panels; birds or butterflies, or plants, or any beautiful natural objects will supply motives. The ceilings should rarely be wholly white, except of halls or where the light is defective. Papered ceilings look well. The use of gold is generally satisfactory; it reflects a warm tone on everything below. Put a good amount of color on a ceiling—not, however, making it so dark as to bring it too close to the eye. The carpet must be either lighter or darker than the walls. This is following out the artist's rule, to make either background or foreground run into the figure. If this is not done in painting, a woman in white satin, for instance, against a dark floor and dark walls, will look like a cut-out figure stuck on, and the same sort of result would occur in rooms. As in ordinary life dresses are dark in color,



NOVEL SCHEME FOR PANELED TREATMENT OF WALLS

Suitable for hall, dining room, or room of semi-public character

where a light wall tone has been recommended, the carpet will have to be darker than the walls. Not too vivid in color, however, and of course, no flowers, ferns, birds' nests, and such like fearful things. *Furniture and hangings* should not be too much alike in color; have, say, the carpet one tone, the coverings of the furniture another, and the curtains and other hangings a third. Have summer and winter hangings and furniture coverings; those for the former light and cheerful, the others with more warmth, and suggestive of comfort and home life. A table-cloth, occasional chair, or a rug, may supply a bit of effective contrast with prevailing hues of hangings, etc., and a spot of vivid color in a vase or some small hanging will complete the formal decoration of the room.

**Graining.**—The art of imitating the grain of the more expensive woods has been brought to a great degree of perfection, but of late years so many unskilled workmen have undertaken to imitate the natural grain of wood with such imperfect results, that this beautiful branch of painting has fallen into partial disuse. A few remarks, therefore, to the uninitiated may not be inappropriate in this work. Mahogany, satinwood, rosewood, mottled and walnut roots, maple, and some others, are frequently imitated; and it is seldom that a house is finished without some graining being introduced. The imitation of the above-mentioned woods are best performed in ground distemper (water colors) which are always preferable and more economical purchased ready prepared. Oak, chestnut, ash and similar long-grained woods, are best executed in oil-color, particularly for outdoor work. For drawing rooms, delicate party colors are preferable, as they harmonize better with the neutral tints on the walls or delicate tinted papers. The process of graining is very

simple. To be an accomplished grainer, practice and an artistic taste is very necessary. Too frequently the imitation is overdone, the shading too deep and obtrusive, and the work made too glaring with figure and varnish, has an unnatural appearance; a grainer should always avoid attempting to over-do nature. The following is an approved method:—The surface on new wood should be prepared with three coats of oil paints for the ground color, and regulated in shade by the color of the wood to be imitated, making due allowance for the graining tint that is to cover it. The ground colors should always be perfectly dry before the graining is commenced. The painter then preparing small quantities of the colors he requires, applies it thinly and evenly over the surface and proceeds to wipe out with his thumb and a piece of white cotton cloth the figure of the grain. Some grainers use rubber instead. We cannot here explain all the different processes for the imitation of the grain of wood. Many painters have a method of their own, which from long practice produce excellent results. In some cases, graining in distemper may be adopted with great success for indoor work, and if the colors are put on thin, so that the varnish will penetrate through into the ground color, this kind of graining is as durable as oil-color, and is susceptible of being made far more beautiful, and soft looking in the imitation of mottled woods. For blending distemper colors, a badger's hair blender should be frequently used to soften down and blend the tints where necessary; but for blending oil-color, in order to produce an elongation of the grain, we have found a flat varnish brush, kept moderately damp and clean, preferable to the badger's hair. When the work is dry, the shades necessary for some woods should be laid on in distemper-color (some use thin oil colors) and then covered with

two coats of good oil varnish. Common varnish should never be used on outside work.

**Oak Graining.**—In oak graining the color is made in the following manner:—Procure some finely-ground burnt umber and raw sienna (or Vandyke brown and raw sienna if a dark oak be required), and thin with equal parts of linseed oil and turpentine. Add a large quantity of patent dryer to make it stand the comb. The color is now ready for use. The graining color is brushed over the work in the ordinary way with a pound brush, care being taken not to put too much color on, else it is liable to look dirty. A dry dusting brush is now used to stipple with, which, if properly done, will distribute the color evenly. It is now ready for combing. First take a medium or coarse-cut gutta-percha comb, and draw it down one side of the panel, then use a finer one to complete it. This comb will leave the marks of the grain in clear unbroken lines from top to bottom of the panel. We now take a fine steel comb and go over the whole of the previous combing; but in drawing this comb down, we either move it in a slanting or diagonal direction across the previous combing, or draw it down with a quick and short wavy motion and curl. Both the former and latter motions will break up the long lines left by the gutta-percha comb into short bits, which, of course, represent the pores or grains of the real wood. Next take out the lights of figuring or veining. This is effected by means of a piece of washleather, held tightly over the thumb nail. Every time a few lights are wiped out the leather should be moved slightly, so that the same part of the leather will not be used twice, thus ensuring clean work. There are various methods of doing this, but they require much more practice. When the figures are all wiped out they will require to be softened. By softening

we mean the imitation of those half shades seen upon and about the figures in the real wood. These are imitated by doubling a piece of washleather into a small roll, and with the side of this the grain is partly wiped away or softened. Care should be taken not to wipe off the whole of the grain. If the operator has a piece of the real wood to look at occasionally he will be materially assisted. As soon as the oil color is dry it should be over-grained. This is effected in water color. Next go over the work with a bit of sponge and soap to prevent it "cissing." Before laying on the over-graining, wash out the sponge and wipe the work. It is now ready to receive the color. Grind up finely a little vandyke brown in water, and dilute it with table-beer and water. It is then ready. Take a flat hog-hair brush, 3 in. to 4 in. wide, dip it in the color and draw it over the work, in most cases in the direction of the combing, but occasionally crossing. The hair of the brush, being thinly placed, will separate into patches, and hence the color will be deposited in streaks, resembling the natural gradations which the wood presents. If you have not a brush of this kind a sponge may be used to put in the streak and to soften off. Then dry varnish in the usual way.

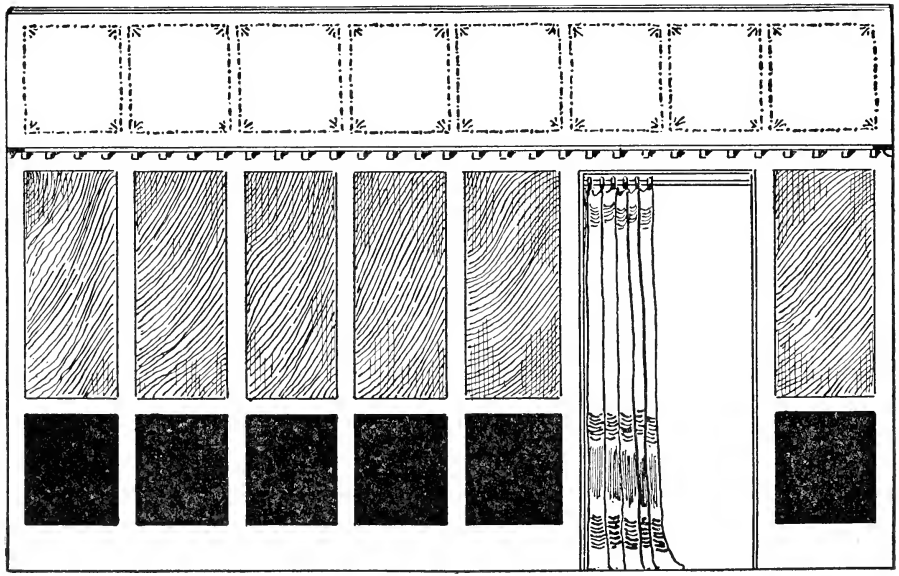
**Spirit Graining for Oak.**—2 lbs. whiting, ¼ lb. gold size, thinned down with spirits of turpentine, then tinge your whiting with vandyke brown and raw sienna ground fine. Strike out your light with a pitch or piece of rubber dipped in turpentine, tinged with a little color to show the lights. If your lights do not appear clear, add a little more turpentine. Turpentine varnish is a good substitute for the above mentioned. This kind of graining must be brushed over with beer with a clean brush before varnishing. Strong beer must be used for glazing up top graining and shading.

**Old Oak in Distemper.**—To make an exceedingly rich color for the imitation of old oak, the ground is a composition of stone ochre or orange chrome and burnt sienna; the graining is burnt umber or vandyke brown, to darken it a little. The above colors may be used for oil as well.

**Pollard Oak.**—Ground color, a mixture of chrome yellow, vermilion and white lead, to bring it to a rich light buff. The graining colors are vandyke brown and small portions of raw and burnt sienna and lake, ground in beer or vinegar. Fill a large brush with color and spread it over the surface to be grained, and soften with a badger hair brush. Take a moistened sponge and dapple round and round in kind of knobs, then soften very lightly, after which draw a softener from one set of knobs to the other while wet, to form a multiplicity of grain, and finish the knobs with a hair pencil, in some places in thicker clusters than others. When dry, put the top grain on in a variety of directions, and varnish with turpentine and gold size; then glaze up with vandyke and strong beer. Finish with copal varnish. This is for distemper only.

**Mottled Mahogany.**—The ground is prepared with the best Venetian red, red lead, and a small proportion of white lead. The graining colors are burnt sienna, ground in beer, with a small portion of vandyke brown. Cover the surface to be grained, soften with a badger hair brush, and while wet take a damp sponge and go over the lights a second time, in order to give a variety of shade; then blend the whole of the work with the badger softener. Put the top grain on with the same color. When dry, varnish. For distemper only.

**Rosewood.**—Mix vermilion and a small quantity of white lead for the ground. Take rose-pink, tinged with a



USE OF FLAT MOULDINGS IN PANEL EFFECTS.

Bottom panels in dark burlap or leather; upper in soft-colored buckram; upper third hung in plain ingrain in light tones of warm color, with stenciled panels.

little lamp-black or vandyke brown, and grind very fine in oil, then take a flat graining brush, with the hairs cut away at unequal distances, and cut down the grain as if wending round a knob. When nearly dry, take a graining comb that is used for oak, and draw down the grain. This will give it the appearance of nature. Then varnish. This makes an excellent and durable imitation.

**Another for Rosewood.**—This ground is prepared with vermilion and small quantities of white lead and crimson lake. When the ground is dry, and made very smooth, take vandyke brown, ground in oil, and with a very soft tool spread the color over the surface in different directions, forming a kind of knots. Before the work is dry take a piece of leather, and with great freedom strike out the light veins; having previously prepared the darkest tint of vandyke brown or gum asphaltum, immediately take the flat graining brush with few hairs in it, called a top grainer, and draw the grain over the work and soften. When varnished, the imitation will be excellent.

**Curled Maple in Oil.**—Prepare a rich ground by mixing chrome yellow, white lead and burnt sienna. For the graining color, grind equal parts of raw sienna and umber with a little burnt copperas and turpentine, and mix it with a small quantity of grainer's cream, thin the color with oil; then fill a tool and spread the surface even and rub out the lights with sharp edge of a piece of buff leather, wiping it frequently to keep it clean; soften the edges of the work very lightly, and when dry, put on the top grain with burnt umber and raw sienna ground in beer with the white of an egg beat into it. Varnish.

**Curled Maple in Distemper.**—Prepare a light yellow for the ground, by mixing chrome yellow and white lead,

tinged with Venetian red. The graining color is a mixture of equal portions of raw sienna and vandyke brown, ground in beer. Spread the surface to be grained in an even manner; then with a piece of cork rub across the work to and fro, to form the grains which run across the wood; soften, and when dry lightly top grain with the same color. Varnish.

**Bird's Eye Maple in Oil.**—The ground is a light buff, prepared with white lead, chrome yellow and a little vermilion or English Venetian, to take off the rawness of the yellow. The graining color is equal parts of raw umber and sienna, ground in oil to the proper consistency. Spread the surface of the work with this color, and having some of the same prepared a little thicker, immediately take a sash tool or sponge and put on the dark shades, and soften with a badger hair brush; before the color is dry put on the eyes by dabbing the dotting machine on the work, or by striking the colors short and sharp with the tips of the fingers, then blend slightly the eyes in one direction only. When dry, put on the grain with the camels hair pencil on the prominent parts to imitate the small hearts of the wood. The same graining colors to be ground in here for distemper.

**Walnut in Oil.**—The ground is formed with ochre, Indian red, umber, and white. The graining coat is similar to that described under the oak heading, and is prepared with vandyke brown; and for the darker shades, fine ivory-black; the wiping out and blending to resemble that in mahogany; the fine dark veins of ivory-black to be lightly and wavily drawn over the work after it is blended. It is then ready for the varnish.

**Satin-wood in Distemper.**—This ground is prepared with white lead, stone ochre and small quantities of chrome yellow and burnt sienna. The graining color is one-third of

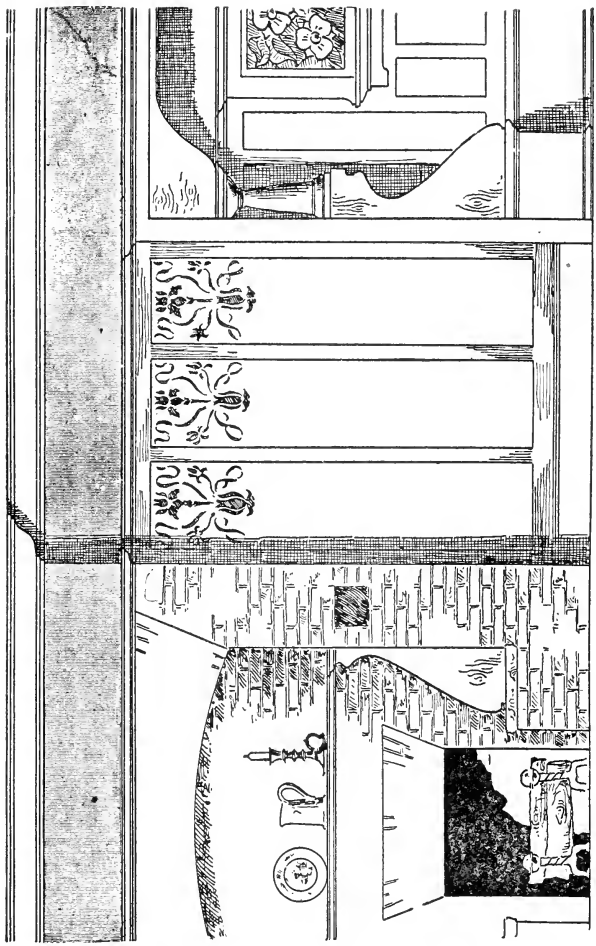
raw sienna and whiting, ground in pale ale, very thin; then spread the color over the surface to be grained. While wet soften, and have ready a wet roller or mottling brush, in order to take out the lights; blend the whole with the badger hair brush, and with the same color put on the top grain. Varnish.

**To Imitate Granite in Oil.**—For the ground color, stain your white lead to a light lead color, with lamp-black and a little rose-pink. Throw on black spots with a coarse brush or graniting machine. A pale red also, and fill up with white before the ground is dry.

**Another for the Same.**—A black ground; when half dry throw in vermilion, a deep yellow, and white spots.

**Marble.**—For *White Marble*, get up a pure white ground, then hold a lighted tallow candle near the surface, and allow the smoke to form the shades and various tints desired. This will make a very handsome imitation. *Black Marble.*—Imitation is made by streaking a black surface with colors, using a feather and pencil. Another plan is to get up a smooth black surface; then take the colors, green, yellow, red, white, etc., ground thick in gold size, and streak the surface with a stick or hair pencil. Allow it to dry, and apply a heavy coat of lamp-black and yellow ochre mixed, mixed rough stuff. When all is hard, rub down to a level surface with lump pumice-stone, varnish and a beautiful variegated marble will be the result.

**Red Marble.**—For the ground put on a white tinged with lake or vermilion; then apply deep red patches, filling up the intermediate spaces with brown and white mixed in oil; then blend them together; if in quick drying colors, use about half turpentine and gold size. When dry, varnish.



DECORATIVE SCHEME FOR HALL, LIVING ROOM, OR DEN ESPECIALLY SUITABLE FOR A COUNTRY OR SUBURBAN HOME

and while the varnish is wet, put in a multitude of fine white threads, crossing the whole work in all directions, as the wet varnish brings the pencil to a fine point.

**Jasper Marble.**—Put on a white ground lightly tinged with blue; then put on patches of rich reds or rose-pink, leaving spaces of the white ground; then partly cover these spaces with various browns to form fossils, in places running veins; then put in a few spots of white in the centre of some of the red patches, and leaving, in places, masses nearly white. When dry use the clearest varnish.

**Blue and Gold Marble.**—For the ground color put on a light blue; then take blue, with a small piece of white lead and some dark common blue, and dab on the ground in patches, leaving portions of the ground to shine between; then blend the edges together with a duster or a softener; afterwards draw on some white veins in every direction, leaving large open spaces to be filled up with a pale yellow or gold paint; finish with some fine white running threads, and a coat of varnish at last.

**Black and Gold Marble.**—This description of marble is very chaste, and is in great demand. The ground is a deep black, or a dead color, in gold size, drop black and turpentine; second coat, black japan. Commence veining; mix white and yellow ochre with a small quantity of vermilion to give a gold tinge; dip the pencil in this color, and dab on the ground with great freedom some large patches, from which small threads must be drawn in several directions.

In the deepest part of the black a white vein is sometimes seen running with a number of small veins attached to it, but care must be taken that these threads are connected with and run, in some degree, in the same direction with the thicker veins. If durability is not an object, and the work required

in a short time, it may be executed very quickly in distemper colors, and when varnished, it will look well.

**Compound Colors.**—The following tints can be formed by mixing the colors as below. The shades can be made to suit any taste by the exercise of a little judgment in proportioning the colors:

*Cream.*—White lead, yellow and red.

*Drab.*—White, Prussian blue and vermilion.

*Fawn.*—White, stone ochre and vermilion.

*Flesh.*—Lake, white lead, and a little vermilion.

*Grey*, Pearl—White lead, Prussian blue, and a very little black.

*Grey*, Flaxseed.—White lead, Prussian blue, and a little lake.

*Gold.*—Massicot, or Naples yellow, with a small quantity of Realgar and Spanish white.

*Green* Light willow.—White, mixed with verdigris.

*Green*, Grass.—Yellow pink with verdigris.

*Green*, Pea.—White lead and chrome or Paris green.

*Green*, Dark.—Black and chrome green.

*Green*, Olive.—Prussian blue and French yellow; mix to the tints required. This is a cheap and handsome color for outside work, such as doors, carts, wagons, railway cars, etc.

*Jonquil.*—Yellow, pink and white lead. This color is only for distemper.

*Lead.*—Prussian blue and white, with a light shade of white.

*Olive.*—For distemper, use indigo and yellow pin' mixed with whiting or white lead powder.

*Olive.*—Red, green, or black and yellow.

*Pearl.*—White lead, Prussian blue and red.

*Purple.*—Dark red mixed with violet.

*Purple.*—White, Prussian blue and vermilion.

*Red*, Dark.—English Venetian, red lead and litharge.

*Red*, Light.—Venetian red, and red lead in equal parts.

*Red*, Deep.—Vermilion, with a very small quantity of red lead.

*Stone.*—White, with a little spruce ochre.

*Straw.*—White lead and yellow.

*Snuff.*—Yellow, sienna and red.

*Slate.*—White lead, black, red and blue.

*Steel.*—Ceruse, Prussian blue, fine lac and vermilion.

*Salmon.*—White lead, yellow and red.

*Walnut.*—Tree color; two-thirds white lead and one-third red ochre, yellow ochre and umber, mixed according to the shade sought. If veining is required, use different shades of the same mixture. (See article on graining).

*Yellow*, Light.—French yellow and white lead. A little red lead may be used.

*Another.*—French yellow, white and red lead.

*Another.*—A mixture of a small portion of Prussian blue, French yellow, white lead and Turkey umber and burnt vitriol, or litharge, will produce different shades of yellow, according to the preponderance of one of the above colors.

*Yellow.*—Bright for floors, white lead, French yellow, chrome yellow a little, some red lead and litharge; mix with equal parts of boiled oil and turpentine and use it thin.

*Yellow*, Dark.—French yellow and a little red.

*Yellow*, Lemon.—Yellow pink, with Naples yellow. For distemper only.

## MISCELLANEOUS RECEIPTS.

**For Iron.**—A good paint for preserving iron exposed to the weather, is made as follows:

Pulverized oxides of iron, such as yellow and red iron ochres, or brown hematite iron ores, finely ground, and simply mixed with linseed oil and a dryer.

White lead applied directly to iron is thought to have a corrosive effect. It may be applied over more durable colors.

Red lead, when pure, is very durable. An instance is recorded of iron painted with it having been under water for nearly 50 years, and had not been affected by rust.

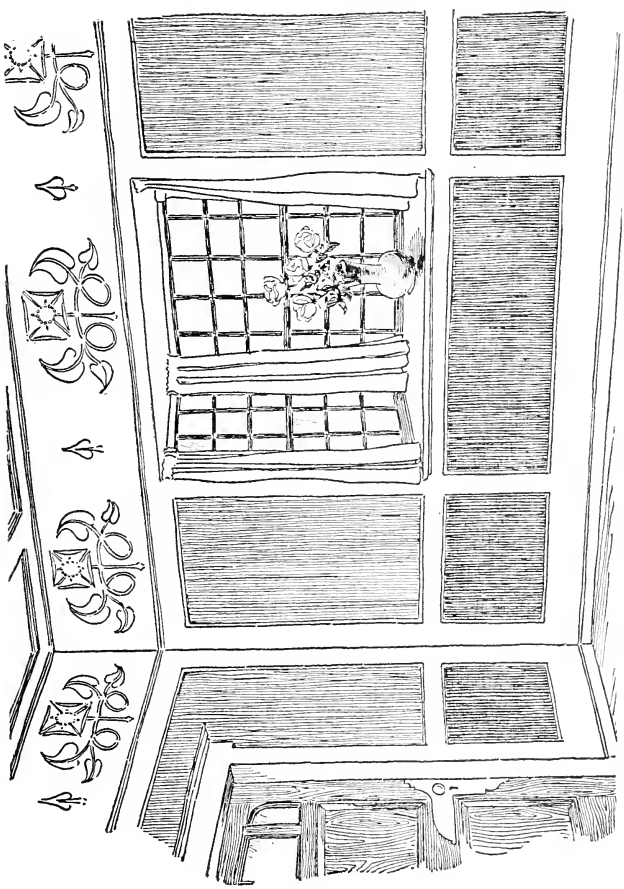
Sheet iron, before being used for roofs or other outside purposes, should be heated and dipped into hot linseed oil, which will penetrate into it. Tinned iron in roofs has been found to corrode quicker than in former years, owing to the more general use of coal.

**Paint for Rusty Iron.**—Black Japan varnish, mixed with turpentine, to make it thinner if necessary, is one of the best preventatives; but the iron must be dry when you put it on. If you can warm the iron when painting it, so much the better. If not sufficiently opaque, you may put in dry finely pulverized paint, such as lamp-black. Red lead, with linseed oil is also a good paint for rusted iron; so are the mineral reddish-browns which consist of oxide of iron; they become very hard, and are used for the iron-work of the elevated railroads in this city.

**To Paint on Stucco.**—Great care is required in painting upon stucco, for the work must not only be thoroughly dry, but free from any liability of dampness; that is to say, the walls themselves must be dry. It is, consequently, usual to allow the stucco to remain for several months before it is painted; and this is especially necessary when it covers over a large surface, as in the walls of churches, chapels and theatres. If the paint be applied too soon, the work will have a blotched appearance, and be probably filled with small vesicles, formed during the evaporation of the water. When the work is dry, it may be prepared by covering it with a coat of linseed oil, boiled with dryer. This must be laid on very carefully, or the face will be irregular. The color may then be applied, and four coats will not be too much, the work being new. Persons are generally so anxious to have their buildings finished, that they disregard the future appearance of the work, and within a few weeks after the application of the stucco, cover it with paint. But it would, in all cases, be sufficient to wash the surface with distemper, as it would give a finished appearance to the building, and make it less necessary to hurry the work. When the work is sufficiently dry to receive the oil-colors the distemper color should be removed by washing, and when the stucco is dry apply the oil-color. The tints may be regulated by mingling different colors, as in all other kinds of painting.

Plastered walls should not be painted until they are thoroughly dry, and all settling in a new house has taken place. If painted too soon they will blister.

Unseasoned wood should never be painted, as it stops the pores of the wood and the sap acidulates, causing dry rot. Greasy surfaces must be washed with water mixed with lime or soda, otherwise the paint will not adhere to it.



SCHEME OF DECORATION ADAPTED FOR HALL OR LIVING ROOM IN COUNTRY HOUSE.

**Mixing Quick Drying Paint.**—Venetian blinds should be painted to dry dead, then varnish; but few take this trouble. Mix the paint as under: White lead, boiled oil, and the least drop of turps; mix sufficient of each to form a creamy mixture; then add about 1 oz. patent drier to each 1 lb. of paint. If you want the paint darker use enough burnt umber to give the required tint. If you want to varnish, omit the oil and use turps.

**Transparent Paint for Glass.**—Take for blue pigment, Prussian blue; for red, crimson lake; for yellow, Indian yellow; and for other shades, a mixture of the appropriate primary colors. Rub them in a size made as follows: Venice turpentine, 2 parts; spirits of turpentine, 1 part, and apply with a brush. The colors are moderately fast unless exposed too long to direct sunlight. A solution of the various aniline dyes in shellac varnish has also been recommended.

**Gilding.**—Gold leaf is the only successful application. First put on a coat of Japan gold size, and when that is "tacky," and nearly dry, lay on the gold-leaf and dab it with a small tuft of cotton-wool. Where you buy the gold-leaf you can buy a gilder's tool for applying it; but in order to get a smooth surface it must (when perfectly dry) be burnished with an agate burnisher, which you will also get at the color-shop, but you will not be able to burnish gold-leaf on the bare wood. You can, if you like, varnish with pale copal varnish.

**Gilding on Glass.**—Glass letters are gilt the same way as you would a name on a glass door. You can easily get a good burnish if you take a little trouble. Get some of the best cotton wool at a chemist's, and well polish the gold with it; the gold must be thoroughly dry. Then go over it with

your size boiling hot; do not touch the same place twice with the brush, or you will bring the gold up; repeat the process three or four times, being sure to have your gold dry each time, the hotter the size the brighter will be the burnish; be careful, however, and not break the glass with the heat.

**Gilding Fretwork, Etc.**—The first thing to be done is to whiten the work. To do this scrape some whitening very fine, place it in a pipkin with a lump of gilder's size, and water sufficient to make it of the consistency of thick cream, when heated over a fire; then, with a camel-hair pencil, paint it on the object several times, allowing each coat to dry before applying the next. When the several coatings have raised it to the thickness of 1-16 in., set it aside for twelve or more hours, to harden; when hardened, smooth the surface with very fine sandpaper first, and finally with a piece of cork; when using the cork frequently dip it in water, and, when practicable, use it in a circular motion. Thus far successful, the next thing is to lay on the gold. To gild, then, dissolve some gilder's—not common size—in water, and heat, and with a full brush lay it on the surface of the object. Cut the gold leaf, on a pad of buff leather, with a clean cut of the knife (much easier said than done; perseverance, however, with the cost of a book or two of gold mutilated, and a large amount of patience exhausted, will overcome the difficulty), to the size required; take these up on a tip (a row of long hairs placed between two bits of cardboard) – the professional way to do this is to strike the hair of the tip against the gilder's own whiskers or hair—and gently lay them on the surface of the object, taking care that each succeeding piece slightly overlaps the preceding. When dry, a small piece of fine sponge, dipped in a weak solution of size water, should be gently passed over it to give a uniform appearance. If

the bright gold requires to be deadened, deep ormolu should be used in a similar way after sizing. The yellow used for the ungilt portions consists of gilder's yellow, dissolved in size water, and is put on with a brush.

**Painting on Gilded Panels.**—There is no preparation needed to paint in oils on a gilded panel. No mediums are required, the ordinary oil colors being used unmixed. If required to dry flat and to remain so, they are mixed with turpentine and left unvarnished. If the shiny look of oils is to be retained, they are slightly diluted with boiled oil, and varnish with white hard varnish when dry.

**Gilding on Wood.**—To gild in oil, the wood, after being properly smoothed, is covered with a coat of *gold size*, made of drying linseed oil mixed with yellow ochre; when this has become so dry as to adhere to the fingers without soiling them, the gold leaf is laid on with great care and dexterity, and pressed down with cotton wool; places that have been missed are covered with small pieces of gold leaf, and when the whole is dry, the ragged bits are rubbed off with cotton. This is by far the easiest mode of gilding; any other metallic leaves may be applied in a similar manner. *Pale leaf gold* has a greenish yellow color, and is an alloy of gold with silver. Dutch gold leaf is only copper colored with the fumes of zinc; being much cheaper than gold leaf, is very useful when large quantities of gilding are required in places where it can be defended by the weather, as it changes color if exposed to moisture, and it should be covered with varnish. *Silver leaf* is prepared every way the same as gold leaf; but when applied, should be kept well with varnish, otherwise it is liable to tarnish; a transparent yellow varnish will give it the appearance of gold.

Whenever gold is fixed by means of linseed oil, it will bear washing off, which burnished gold will not.

**To Gild Letters.**—When the sign is prepared as smooth as possible, go over it with a sizing made by white of an egg dissolved in about four times its weight of cold water; adding a small quantity of fuller's earth, this to prevent the gold sticking to any part but letters. When dry, set out the letters and commence writing, laying on the size as thinly as possible, with a sable pencil. Let it stand until you can hardly feel a slight stickiness, then go to work with your gold leaf knife and cushion, and gild the letters. Take a leaf upon the point of your knife, after giving it a slight puff into the back part of your cushion, and spread it on the front part of it as straight as possible, give it another slight puff with your mouth to flatten it out. Now cut it to the proper size, cutting with the heel of your knife forwards. Now rub the tip of the knife lightly on your hair; take up the gold on the point, and place it neatly on the letters; when they are all covered, get some very fine cotton wool, and gently rub the gold until it is smooth and bright. Then wash the sign with clean water to take off the egg size.

**Sign Writing in Colors, Etc.**—On an oak ground ornamental letters, in ultra-marine blue, filled in with gold and silver leaf, blocked up and shaded with burnt sienna. *Another.*—Gold letters on a white marble ground, blocked up and shaded with a transparent brown or burnt sienna. *On glass.*—Gold letters shaded with burnt sienna. *Another.*—Gold letters shaded with black on a *scarlet* or *chocolate ground* On a rich *blue ground* shaded with black, look very well. *On a purple* ground, pink letters shaded with white. Mix ultra-marine and vermilion for a ground color, white letters shaded

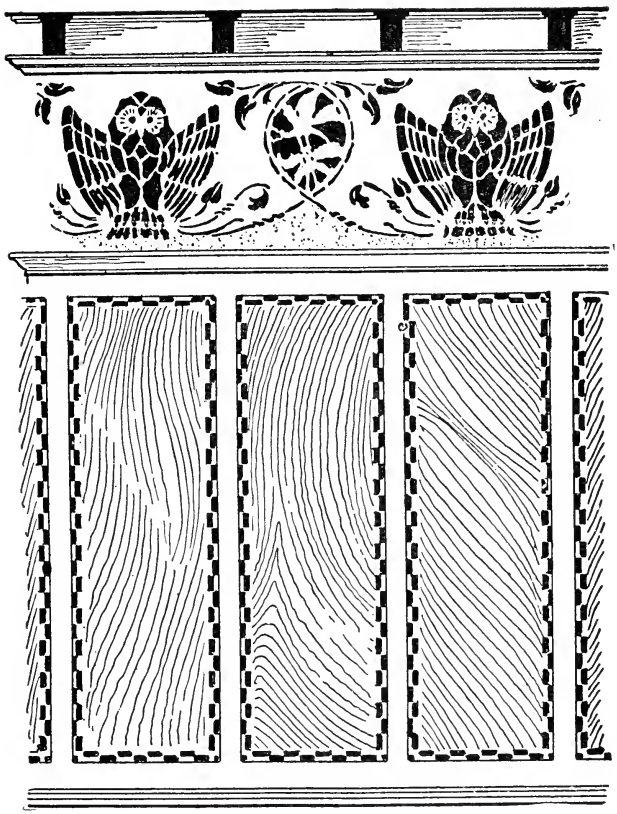
with grey. *Vermilion ground*, chrome yellow stained and vermilion and lake, for the letters shaded with black.

A substitute for the above colors: Rose-pink and red lead; and for the letters stone yellow, white lead and Venetian red. Mix your colors for writing in boiled oil, and use for dryer gold size. Other good grounds for gold letters are, blues, vermilion, lake and Saxon. When your sign is ready for gilding, follow the directions under the head "*To Gild Letters on Wood.*"

**Gilder's Size.**—Drying or boiled linseed oil, thickened with yellow ochre, or calcined red ochre, and carefully reduced to the utmost smoothness by grinding. It is thinned with oil of turpentine.

**Staining Wood a Dull Black.**—The work required to be stained should be colored with drop-black and size. When this is thoroughly set it should be papered off and colored again, and then be papered off again. The polish should also be stained with drop black and a little indigo. Next polish to a perfect surface, and let it set. After the wood has absorbed all the polish possible, polish again, and dull it with the finger dipped in fine emery; a fine metallic surface will thus be obtained.

**Staining Floors.**—The best and cheapest and only permanent stain for floors is permanganate of potash. Buy it by the ¼ lb., and at a wholesale chemist's; mix about ¼ oz. in a quart of water. Apply freely and quickly to a dry floor with either cloth or brush, the latter if you care for staining your hand. Repeat the process for a very dark oak color; when dry oil with burnt oil or beeswax and turpentine; you cannot wash this color out. Benson's stain is only permanganate of potash. At first for a few moments the color is bright magenta, but this at once changes to a dark



SCHEME FOR DECORATION OF WALLS OF STUDY OR LITERARY WORKSHOP

permanent brown. For fifty cents a whole house may be stained.

**Varnishing Wood.**—After smoothing wood with veneer scraper, brush on thick coat of shellac varnish; then use fine sandpaper, No. O. Do this three times for close grained woods, such as black cherry, and four times for porous wood, such as chestnut. Have two dishes. Into one put finely ground pumice; into the other raw or boiled oil. Apply a mixture of these with a piece of hair-cloth or broad-cloth. Don't rub too hard. Finish up with rotten stone, which will remove pumice and oil. Above is a good dead varnish. *Another.*—Take encaustic wax, heat, and apply with a cork; rub in well, brush on thin coat shellac varnish, finish with pumice and oil.

**Solvent for Old Putty and Paint.**—Soft soap mixed with a solution of potash or caustic soda, or pearlash and slaked lime mixed with sufficient water to form a paste. Either of these laid on with an old brush or rag, and left for some hours, will render the putty or paint easily removable *Another.*—Slack three pounds of stone quicklime in water, then add one pound of pearlash, and make the whole about the consistence of paint. Apply it to both sides of the glass, and let it remain for twelve hours, when the putty will be so softened that the glass may be easily taken out of the frame. *Another.*—Break the putty up in lumps the size of a hen's egg, add a small portion of raw linseed oil, and water sufficient to cover the putty, boil this in an iron vessel for about ten minutes and stir it when hot. The oil will mix with the putty, then pour the water off and it will be like fresh made. For removing hard putty from a window sash take a piece of square iron, make the same red hot, and run

it along the putty till it gets soft. The putty will peel off without injuring the wood work.

**Wash for Outside Work.**—For woodwork slake half a bushel of fresh lime, by pouring over it boiling water sufficient to cover it 4 or 5 inches deep, stirring it until slacked; add 2 lbs. of sulphate of zinc (white vitrol) dissolved in water. Add water enough to bring all to the consistency of thick whitewash; it may be colored by adding powdered ether, Indian red, umber, etc. If lampblack is added to colors, it should first be thoroughly dissolved in alcohol. The sulphate of zinc causes the wash to become hard in a few weeks.

**Another for Brick, Masonry, and Rough-cast.** Slake half a bushel of lime as before; then fill a barrel ⅔ full of water, and add a bushel of hydraulic cement. Add 3 lbs. of sulphate of zinc previously dissolved in water. The whole should be of the thickness of paint. The wash is improved by stirring in a peck of white sand, just before using it. It can be colored as before described.

**French Polish.**—Coat with one or more coats of shellac and rub down smooth; make a rubber by rolling up a piece of flannel about 3 or 4 inches wide until it is about 1½ inches in diameter, and tie it round with cord. Lay the end of the rubber on the mouth of a thin necked bottle and apply the varnish to it, having previously shaken up the contents in the bottle; then enclose the end of the rubber with a piece of soft linen doubled, and moisten the face of the linen with a little raw linseed oil.

Pass the rubber with a quick, light and circular motion over the surface until the varnish becomes dry, or nearly so, and charge the rubber again with varnish until 3 coats have been laid on, when a little oil may be applied to the rubber and two more coats laid on. In the finishing coat wet the inside

of the cloth with a little alcohol, and rub quickly and lightly over the whole surface. Lastly wet the linen cloth with a little oil and alcohol without varnish, and rub as before until dry.

The varnish is the usual preparation of shellac. See cabinet maker's varnish.

**Wood Filling Composition.**—Boiled linseed oil, 1 qt.; turpentine, 3 qts.; corn starch, 5 lbs.; Japan, 1 qt.; calcined magnesia, 2 oz.; mix thoroughly. *Another.*—Whitening, 6 oz.; Japan, ½ pt.; boiled lin-seed oil, ½ pt.; turpentine, ½ pt.; corn starch, 1 oz.; mix well to gether and apply to the wood. Add coloring if required. *Another.*—Linseed oil, 1 qt.; spirits of turpentine, ½ pt.; lime, the size of a base-ball, broken fine. Let the mixture simmer on a stove, covered over, for two or three hours, then strain through a coarse cloth. It is to remain on 24 hours, then rub off with a wollen cloth and polish.

**German Filling.**—Fill the pores with raw tallow and plaster of Paris well amalgamated before a fire in cold weather. Darken, if required, with any coloring to suit. When well rubbed in give a coat of shellac and French polish or varnish.

**Polish for Walnut Wood.**—Mix with two parts of good alcoholic shellac varnish, one part of boiled linseed oil, shake well, and apply with a pad formed of woolen cloth. Rub the furniture briskly with a little of the mixture until the polish appears.

**Rules the Painter Should Observe** —Never eat or sleep without washing the hands and face and rinsing the mouth. Keep the buckets, brushes, etc., clean, so that they may be handled without smearing the hands. Never sleep

in a paint shop nor in a newly painted room. Never allow paint to accumulate on the clothing or finger nails. Never wash the hands in turpentine, as it relaxes the muscles and injures the joints; any animal oil or even linseed oil is better. Never drink water that has stood any length of time in a paint shop or newly painted room. Never use spirituous liquors as it unites with the mineral salts and tends to harden them and causes inflammation of the parts where they concrete. Milk, sweet oil and the like should be used freely, as they tend to soften the accumulated poisons and carry them off. Vinegar and acid fruits used constantly, unite.

## PAPER-HANGING.

The art of putting on, or "Hanging" paper is very simple, and is easily learned; but to make a tasteful choice of paper for various situations, is not so easy, hence the following remarks, which may be of service to the workman or others on whom the selection of paper may devolve.

Walls to a room should be regarded only in the light of a frame-work to what the room contains, and should be decorated so as to bring into prominence and not eclipse the other parts of the chamber. Nothing destroys the effect of a room so much as a handsome but staring wall paper, or a wall so profusely ornamented as to strike upon the eye to the exclusion of the rest of the decorations, thus bringing forward what should be the background into the most conspicuous place. A modern drawing room is always difficult to decorate artistically, because of the taste of its builders for heavy cornices, prominent mantelpieces, and rooms too lofty for their size; and as all these misnamed "embellishments" are too costly to remove by tenants, the only plan to pursue is to destroy their effect by exercising both taste and ingenuity. First, with regard to the ceiling, the ornamental plaster boss in its center should be removed, and the ceiling tinted a color that harmonizes with the wall paper, as no harmonies can be hoped for when what produces them is surmounted with the glaring white of an ordinary ceiling. The tint used must be one that softens into the wall paper, not one that contrasts, thus, if the tone of the room is that of a soft grey blue, the ceiling should be a clear flesh pink; or should a grey green

An exquisite example of advanced mural decoration from England; wall hanging and crown. Suitable for reception room or boudoir.

WE originated the Relief "cut-out" crown, of which this is an excellent example. Our line includes a variety of designs and colorings suitable for any room.

picked out with black be the chosen color, then it should be colored a subdued lemon.

Some people cover their ceilings with a whole colored paper, and border it with a stencilled pattern representing thin garlands so familiar upon Queen Anne decorations, but this is a more troublesome plan than the simple coloring, which answers all the purpose. The walls, if they are lofty, require a high dado. These high dados give a look of comfort and "home" that is absent from the modern high pitched room papered with one uniform pattern. The dado is divided 3 feet to 4 feet from the ceiling, and the coloring of the lower portion must always be heavier than that used on the upper or a top heavy look will be given to the room. When many pictures are to be hung up the lower part of the dado should be of a whole color, either a whole colored paper or a painted wall, as pictures are only shown off upon such a background. Where a whole tint is used for the lower part of the dado, the upper portion should be decorated with a frieze paper of a good bold pattern, but of subdued coloring and of tint that harmonizes with the lower. Thus, the color used about the frieze should be the same as that on the lower part, but of a lighter shade, intermixed with some other colors that form a harmonious link between the two shades. Contrasts must be carefully avoided, but pale pinks, blue and ambers can be blended together above a subdued grey blue ground. The two portions of the dado should be joined together with a light wooden (black or brown) railing, or with a line of paint.

The dado decoration can be altered by placing the pattern paper upon the lower part and leaving the upper plain-colored with or without a stencilled pattern upon it. This will suit a room where not many pictures are required, or that is already rather dark. Some part of the wall should always be in plain

color, as the eye requires rest; and no pattern, however subdued in hue, can give the relief to the mind that a bit of plain coloring affords, and this scarcity of ornament in one part of a room is amply repaid by the effect it gives to such parts as are bright and should be bright. The true theory of effect is to use but one or two bright colors in a room, and to surround them by soft and subdued tints that throw up and do not destroy their brilliancy; a number of bright colors placed together destroy each other, and leave no impression upon the mind but glare and vulgarity. Having settled upon your paper and ceiling, have the woodwork and cornice of the room painted either a shade lighter or darker than the walls. The back-ground of a room being thus completed in a manner really to be a back-ground, furniture will look twice as well as if it were stared out of countenance by the walls, and one need hardly add that all will delight in a room that throws up and brings out their dresses and faces, instead of killing them by its glaring tints.

**Measuring Quantity of Paper Required.**—It will now be necessary to estimate the number of rolls of paper required for a room that is to be papered. Experienced paper hangers can, as a rule, tell the number of rolls by glancing at a room, but the beginner will require to measure.

A single roll of wall paper contains 8 yards and when trimmed is 18 inches wide. It thus contains 36

square feet. It is usually sold in double rolls of 16 yards.

English wall paper is 21 inches wide when trimmed, and a piece or roll is 12 yards long. Ingrain papers are usually 30 inches wide. As there are these different widths of paper it is safest to order so many yards rather than by rolls or pieces, unless one is sure just how many yards are in the roll. Borders are sold by the yard and cut out ornaments by the piece.

As there is more or less waste it is necessary to order more paper than the wall space to be covered. It should be remembered that the larger the pattern the greater the waste will be, owing to matching the design.

In practice the simplest plan to follow is to take a roll of the paper or a stick to this width and measure around the room. In this way the number of lengths necessary can be easily found. The next step is to measure the height and see how many yards of paper will be required. Always remember about the waste due to the matching of the paper. The pieces left over will be sufficient to paper over doors, windows, and any small odd places.

If there is a border 18 inches or more the height can be taken as so much less. When only a 6 or 9 inch border is used it will be safest not to allow for the border.

As an example, take a room 12 x 16 feet, and 9 feet

high, at one end of the room is a large grille opening 7 feet wide and 7 foot 6 inches high, and at the opposite end are two windows each 4 feet wide, and from the floor to the top of the casings the height is 8 feet.

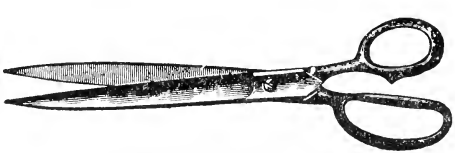
Measuring around the room gives 12+16+12+16=56, from which deduct 7+4+4=15 feet for the window and grill openings, this giving 41 feet of wall to be papered.

If American wall paper 18 inches wide, is to be used, it will require 41÷1½ feet=27 1-3 strips or practically speaking we would say 28 strips.

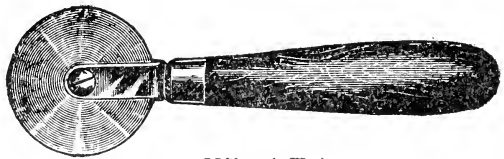
As the border is 18 inches deep the strips need be 9—1½=7½ feet long. Therefore, it would take 28 x 7½=210 feet or 70 yards of 18-inch paper.

How much paper to order depends upon the design, and how many complete strips can be had from a roll. For a plain paper, or one with a small design, we would be safe in getting 9 single rolls of 8 yards each as each roll would give 3 strips. On the other hand if the design is large, on account of the necessary matching it would be rather difficult to get more than two matching strips from a roll, or five, at the most, from a double roll; so that for a large design it would take 6 double rolls of paper for the room. There is economy in using a paper of small design.

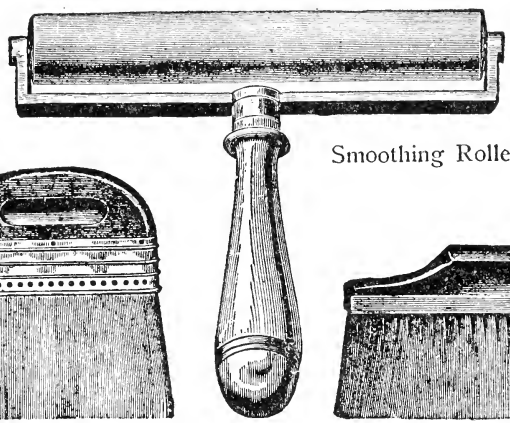
For the border, it would of course require enough to go all around the room. The top of the border only shows over the windows, the lower part being



Trimming Scissors



Wheel Trimmer



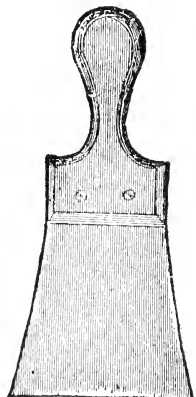
Smoothing Roller.



Paste Brush



Smoothing Brush



Scraper

waste. If the windows or other openings went clear to the ceiling, we would need no border paper for that space; but if there is only a little distance showing, it is necessary to run the border over the entire length so as to preserve the symmetry of the design. In this case we would need 56 feet or 19 yards of border, but it is best to get 20 or 21 yards to allow for some tearing or other waste.

**Trimming the Paper.**—Having made a selection of the paper, the next thing to be done is to cut off one or more of the margins. This is readily done by means of scissors or rotary knives. As it is rather tedious to trim the paper dry when it is always curling up, the majority of paper hangers trim the selvedge after the paste has been applied, and as the paper is doubled over there is only half the length to cut.

In some wallpaper shops will be found a machine by which the selvedge or margins may be rapidly removed, and in some cases the paper may be purchased already trimmed, which, of course, saves a good deal of trouble. It must be remembered, however, that the wallpaper manufacturer left the selvedge on for a definite purpose, that is, to protect the body of the paper, and that without it there is a likelihood of the paper becoming quickly soiled. It should be remembered, therefore, that when one buys paper ready trimmed it is necessary to take

great care in handling, so as not to dirty or mar the edges.

There are two ways of hanging paper, one with what is called a "butt edge," the other a "lapped edge." In the former both margins are cut off, and the edges of the paper must then be drawn together, so as to exactly meet, the pattern of course, uniting accurately. The difficulty of the beginner using the butt edge is that he sometimes finds a difficulty in bringing the edges to meet, and if there is a space between, the white wall underneath shows through. Sometimes the paper shrinks after being hung, and produces the same objectionable effect. To prevent this it is not a bad plan to mix a little distemper to match the ground of the paper, and to paint this on the wall exactly where the several seams will come. If, in this case, there is an opening of, say, a thirty-second part of an inch it will not be noticed. In most cases, however, the lapped edge is used except with heavy paper and burlaps. In this case only one margin is cut off, and the paper is lapped or placed over the other, care being taken to match the pattern as before. The objection to lapping is that the joints show somewhat conspicuously, as it will be clear that there will be two thicknesses of paper instead of one wherever the joints occur. A hint of importance is to remember that the laps should be away from the light, as this will render it less conspicuous than it would otherwise be.

**Hanging the Paper.**—The paper is now supposed to be cut into lengths ready to hang. The lengths are rather longer than is accurately required, and the beginner will find that at this point he reaches his greatest difficulty, which is to paste the paper and carry it while wet to the wall and hang it on in a vertical position. A good plan for a beginner is to take a plumb-bob (or if one is not available a small weight tied to a piece of string answers for the purpose), and mark out upon the wall vertical lines at the points where the joints of the paper are to come. This will at least have the effect of keeping the joints upright. Place the paper face downwards on a pasting board—the kitchen table, if long enough, answers well—and give it a coat of paste, taking care not to apply too much, or it will brush out when the paper is applied. If the table is not long enough to take the whole length, as it probably will not be, paste one-half, fold the end toward the centre, then carefully draw the strip over and paste the end toward the centre, so as to meet the end already folded. In this condition the paper will not leave any of the pasted surface outward, and as there are at least two thicknesses, it will not be very difficult to lift it from the table. At this stage before removing the paper from the table the selvedge should be trimmed as already mentioned. With a little care the lower portion of the paper may be folded again for convenience in carrying.

To start the hanging commence at a projecting corner of a door or window, or at any other position where a mismatch will show the least. Climb the step-ladder, which must, of course, be provided, unfold the upper end of the paper, place it carefully beneath the cornice and down the marked line, press it against the wall with a dry brush, taking care that there are no air bubbles left. Then unfold another portion, and press this down also, and proceed in the same way until the bottom of the length is reached, when it will be found that a portion of the length which was cut too long projects over the base board. Draw the point of the scissors lightly across this edge, which will mark the paper, pull the lower end of the strip away from the wall, and cut off this superfluous portion of the paper, and press the whole back in position and brush towards the edges; one length of the paper will thus have been hung.

Before pasting the second length, see that you have cut it correctly at the top to match when placing it in position. Paper-hangers frequently manage this on the wall itself, using the lower member of the cornice as a guide to mark the upper edge of the length, and they cut this superfluous top edge while standing on the ladder. The amateur will do much better to get the upper portion right before he pastes the paper. Instead of a paper-hanger's brush, a cloth may be used to press the paper to the wall. The brushes are usually used where speed is required;

but they require a little practice before one becomes expert with them.

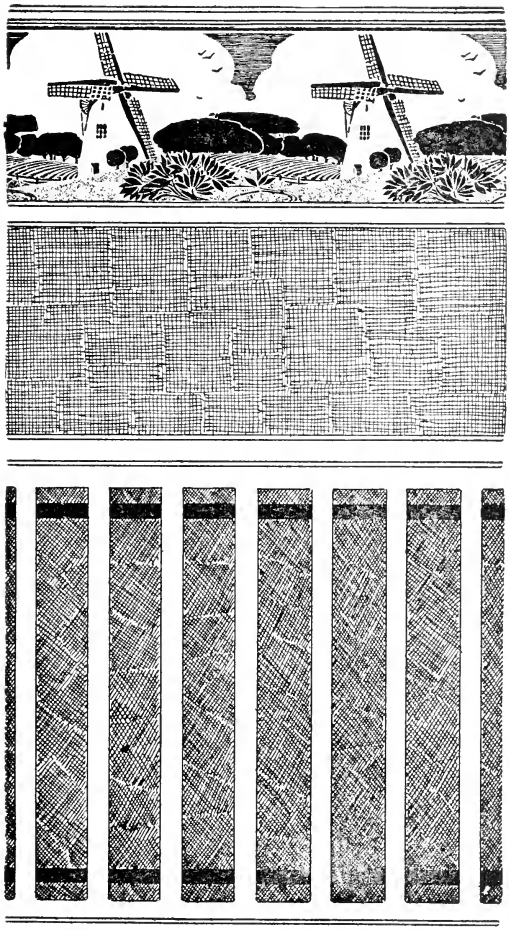
A soft hat brush makes an excellent paste brush and an ordinary whisk broom answers the purpose of the paper-hanger's brush if none is at hand.

In handling a pasted strip do not let the lower portion slip down suddenly while you are working at the top, otherwise it will most likely tear apart and the entire strip would be ruined.

Care must be taken to keep the printed side of the paper free from paste; cleanliness is absolutely essential to get a good job.

Where a border or frieze is to be hung, the proceeding is precisely similar to that already described, except that the width of the paper is much less, and it is, of course, hung horizontally instead of vertically. If the reader will take care to fold his paper several times after it has been pasted, he should find no difficulty in handling it. It must be folded in such a manner as to be unfolded piece by piece as required to go around in its proper position.

Strictly speaking, a first-rate job of paper-hanging requires training, and cannot be done at the first few attempts. The application to the wall of a long length of paper wet with paste requires practice, and the reader who attempts it for the first time may be a little disappointed. However, there is nothing in the work of papering any ordinary room, which requires any great skill; a little practice is needed.



WALL TREATMENT FOR DINING ROOM HALL, BILLIARD ROOM, OR DEN

Frieze of English stencil effect.

**Hanging Ceiling Papers.**—To hang a paper on a ceiling requires a good deal of thought and planning, and it is by no means as easy as hanging a paper on a wall. The paper having been carefully schemed out so as to show to the best advantage, the paper is pasted and folded as before, and hung in the same manner, excepting that a lath or stick must be used as an aid in holding up the folded portion, while the other end is being pressed to the surface. Before the paper hanging of the ceiling is commenced, all breaks and cracks should be mended in the same manner as described in dealing with broken walls, while stains should be painted out. When cutting the paper around irregular angles, such as those which arise from a bay window, the best plan is to cut the paper roughly, to about the angle required, leaving it rather longer than necessary, and then to mark the exact line against the cornice with the point of the scissors; then to cut off the superfluous end. Even where care is taken, this will sometimes cause a little trouble with the paste coming against the cornice and discoloring it, but this can afterwards be made good with whitening or coloring.

In rooms which have no pretension whatever to a decorative appearance, ceilings are often papered in order to strengthen them. We have seen old ceilings which appeared to be about to fall off, kept in position for years by two coats of strong paper pasted over them. In this case what is known as lining

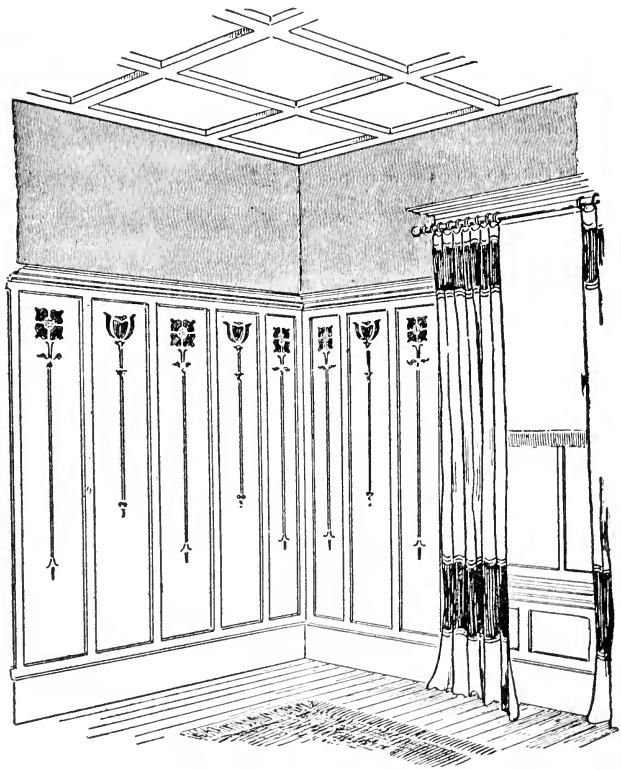
paper is used. It is sold by every dealer in paper hangings, and is cheap. It must not be forgotten that a ceiling must never be papered in any room in which there is steam at any time. For instance, in a kitchen or laundry it is entirely out of place, as the first "washing day" will mean the descent upon one's head of all the paper from the ceiling.

**Borders and Friezes.**—Sometimes in the country, and even in well-built houses, rooms are found finished entirely without cornices. In such cases it is almost impossible to produce a finished effect unless a border or frieze is used. The writer is strongly of the opinion that borders should be almost always used in rooms large and small. They cost very little and if a comparison is made between a room finished without a frieze and another in which a good design is employed, the difference will be at once apparent.

**Re-papering An Old Wall.**—In re-papering an old wall the first thing to be done is to remove the old paper. Now, although that is very necessary in order to produce a god job, as well as for sanitary reasons, it is very frequently neglected altogether, and one paper is pasted over another time after time, the accumulation of dirt, decayed paste, and perhaps various insects, forming a most unsanitary dwelling-place. The paper may be usually removed by washing it over with hot water, giving a liberal quantity,

and allowing this to soak in, and then scraping off with an old chisel or scraper.

If the paper is varnished, or is printed in oil—that is, it is of the quality known as "washable" paper—it may be necessary to score over the surface with a chisel before applying the water, so as to give an opportunity for the moisture to soak in. Commence at the top, taking care not to injure the cornice or ceiling, and scrape to get every particle of the paper away. Sometimes plastered walls which have been prepared with half a dozen or more papers are in such bad condition that, when these papers are removed, a considerable portion of the plaster will be pulled away. In such a case it may be quite necessary to leave the old paper on. In a fairly good wall the paper may be removed without injury, provided that plenty of water is used; it is very probable that there will be some breaks, which will require mending before the new paper is applied. This can be done without difficulty by means of plaster of Paris mixed in small quantities at a time with a little glue water, and applied with a knife or piece of wood, and smoothed off to a level surface. In mending the walls of an ordinary room in this way it may be necessary to mix the plaster half a dozen times, as, if sufficient is mixed at one time for the whole job, it will be found to be set quite hard, and, therefore, to be useless before the mending is completed. A few drops of glycerine added to the plaster will retard its



DECORATION SUITABLE FOR A DINING OR RECEPTION ROOM

Paneled dado with alternating stencil ornaments; also paneled ceiling.

setting, but this is not necessary if glue water is used. It is best not to paper over a patched wall for several days as the damp plaster is apt to stain the newly-applied paper. After the plaster is dry, coarse sandpaper should now be rubbed over the whole surface, so as to make it as level as possible, and then the room is ready for papering.

If the wall has been whitewashed or distempered, it will be necessary to soak and clear this off and the cleaned wall sized before the paper is applied. If this is not done, the paper will soon peel off. The sizing, consisting of a little glue added to water, should also be applied to new walls.

**Paste.**—If one is near a source of supply, the best and most convenient way is to buy the paste already prepared, all that is necessary is its being thinned until it is of the proper consistency. Care must be taken that it is not lumpy.

There is now on the market prepared paste powder that only needs the addition of cold water to make an excellent paste, but if it is necessary to make a paste, take two pounds of fine flour, put in a pail; add cold water, and stir it up together in a thick paste. Take a piece of alum about the size of a small chestnut, pound it fine and throw it into the paste; mix well. Then provide about six quarts of boiling water and mix while hot with the paste until the whole is brought to a proper consistency. This makes an excellent paste, and fit for use when cold.

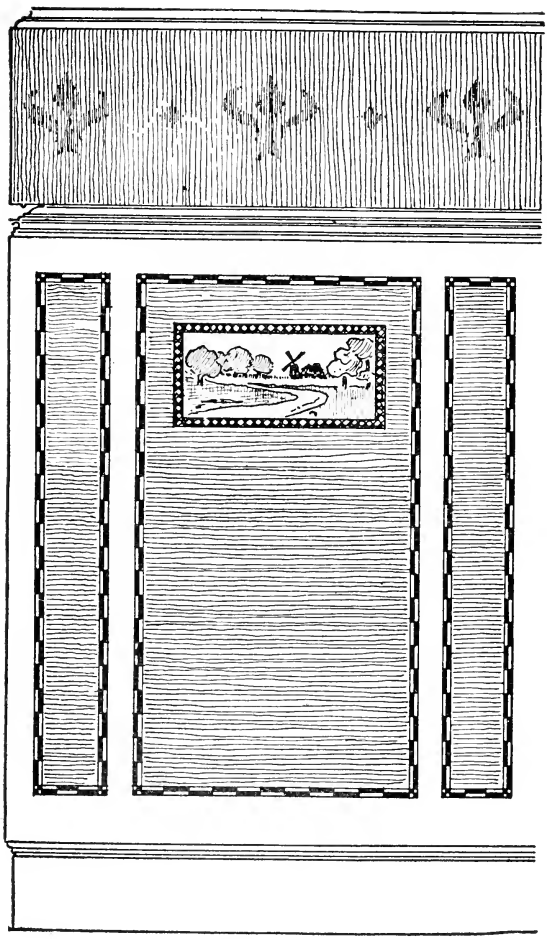
**Cleaning Paper-Hangings.**—A very good method to clean paper-hangings is that used oftentimes in cleaning the margins of prints. Cut into eight pieces a loaf of bread two days old, and after having swept all the dust from the paper-hangings, commence from the ceiling downward, and somewhat lightly rub the paper with a downward stroke with one of the pieces of bread. Continue this around the room, and then commence lower down in the same way till the whole of the surface of the paper has been gone over. The bread will from time to time get dirty, and it should be cut off as often as required. Care should be exercised not to rub the paper with a cross or horizontal stroke, only with the perpendicular movement of the hand, or the paper may peel off the walls from the joints. With careful manipulation, paper will look almost as good as new.

**Choosing the Paper.**—We come now to choosing the paper, sometimes a very formidable task. This choice is usually left to "the lady of the house," probably on the supposition that she has better taste in such matters than her husband. If the paper is of a cheap grade, in most cases the wall paper dealer will send a book of patterns measuring, perhaps, 24 inches by 18 inches, and from these small samples the occupier of the house is expected to make a selection. It is this which gives rise to so much disappointment. A small piece conveys a very little idea of the ap-

pearance the room will present when the walls are covered all over with the same patern, and it is far better, where it is practicable, especially in the principal rooms, to obtain a roll or two of those papers which appear to be most suitable, and to pin them on the wall, so as to gain a good idea of the appearance they will present.

The following hints should be borne in mind: For a small room choose a small pattern paper; never a large one, which will make it look smaller still. A room with a low ceiling will look higher than it is if a pattern having vertical stripes is chosen. The reverse of this is true of an unusually high room, which will not look so high if the paper having horizontal stripes is used. "Gold" papers, or those which have bronze or imitation gold, in the design, are now rarely used, being rightly considered as somewhat vulgar, excepting in public or important rooms. Large pronounced patterns are usually not desirable, because they detract from the repose or quiet appearance a living room should present. A bedroom should always be papered with a cheerful design, and geometrical figures be avoided as far as possible.

In choosing a paper for a hall or staircase, or any room or apartment which is somewhat bare in appearance or devoid of furniture, it is always well to select a hanging of bold design and somewhat vivid coloring. On the other hand a room full of furniture, especially if small and with many pictures on the



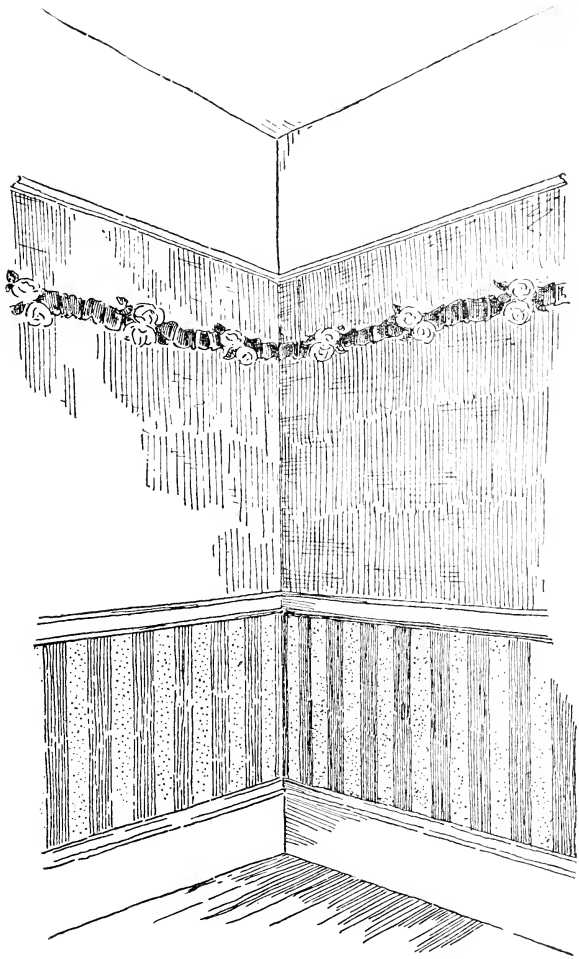
BEDROOM DECORATION.

Paneled dado in chambray or linen paper giving fabric effect; frieze of conventional design in cretonne or chintz paper.

walls, would be wholly spoiled by a bold design. During the last few years there has been a distinct tendency toward employing papers with little or no pattern at all. At this writing ingrains are much in vogue. These papers are dyed in the process of manufacturing instead of being grounded or treated with the distemper color on the surface as is usual with ordinary wall papers.

An excellent effect is produced in decorating a room with such a plain ingrain, especially if a good bold frieze is employed to form a finish, and take away from the bare effect. The objections to ingrains, however, is that they are very apt to lose their color, and also that they are very difficult to handle, as they are almost like blotting paper in texture, and they rapidly absorb the moisture from the paste. For many purposes an ingrain paper or its equivalent, having printed upon it a very small set design, produces good results.

In selecting papers it should be remembered that it is not necessary to pay a high price in order to get a good design, as the decorator of to-day finds the field full of opportunities for novel and effective treatments that are out of the commonplace, yet at the same time comparatively inexpensive. The manufacturers of wall papers and other decorative materials have been vying with one another to produce novel and up-to-date materials which can be used to obtain original effects, and there is no excuse for the



BEDROOM DECORATION

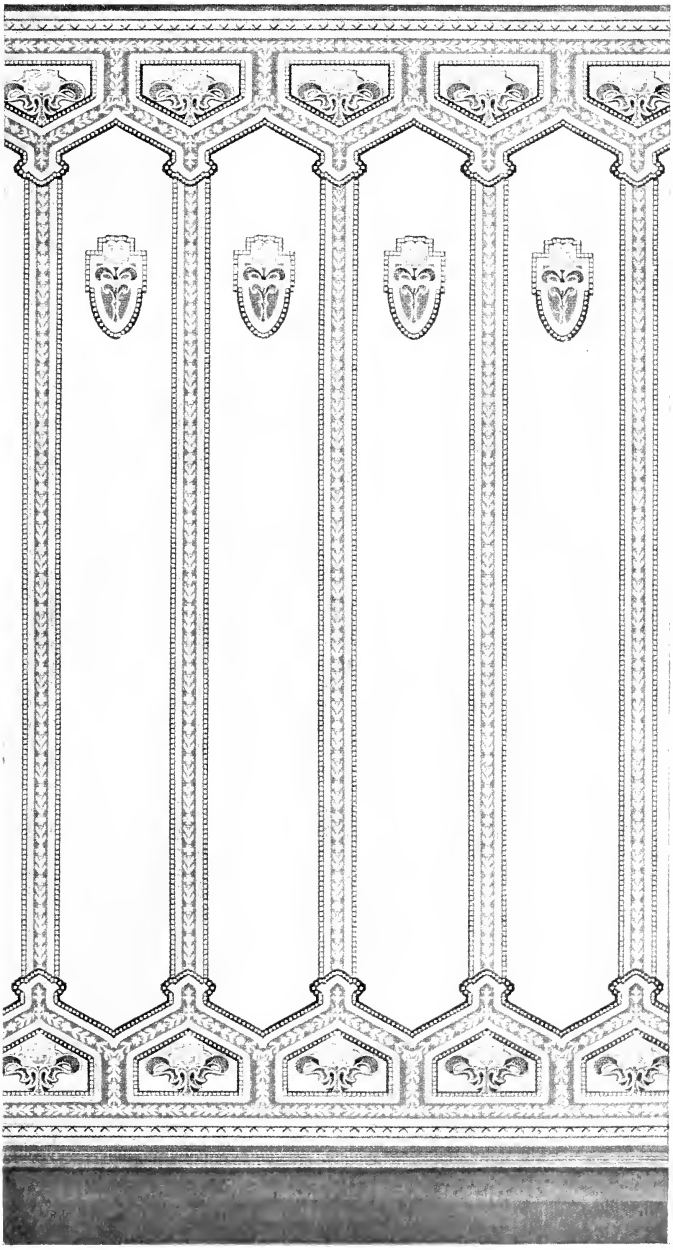
**Paper giving fabric effect, relieved with narrow floral design.**

decorator with brains following in the beaten rut, or for the house owner whose home does not reflect any individuality of taste in the wall decorations, the hangings and other features of that character. The wall papers of the present season are noteworthy for their artistic design and beauty of coloring, and while, of course, every manufacturer is obliged to put out each season a number of patterns that are showy and commonplace, and intended to meet a demand from an uneducated class, yet even these so-called "bread and butter" designs are better, both in their drawing and coloring, than similar patterns of previous seasons. But almost every line of wall paper shows the influence of the education along decorative art lines which is being carried on by the popular magazines and in the schools of the country. People know a great deal more of the harmony of color, and of what is good taste and what is bad, than they did a few years back. They have learned that decoration does not look to garish display, but depends on breadth of color treatment and is effective because of its simplicity. The mission and craftsman styles are direct results of this revulsion of feeling against the too ornate and the vulgarly tawdry display of the past generation. It is true that refinement of decoration does not necessarily need to go to such extremes as this, but the popularity of these styles indicates that simplicity as a keynote in decoration meets with the popular approval. To meet this demand for

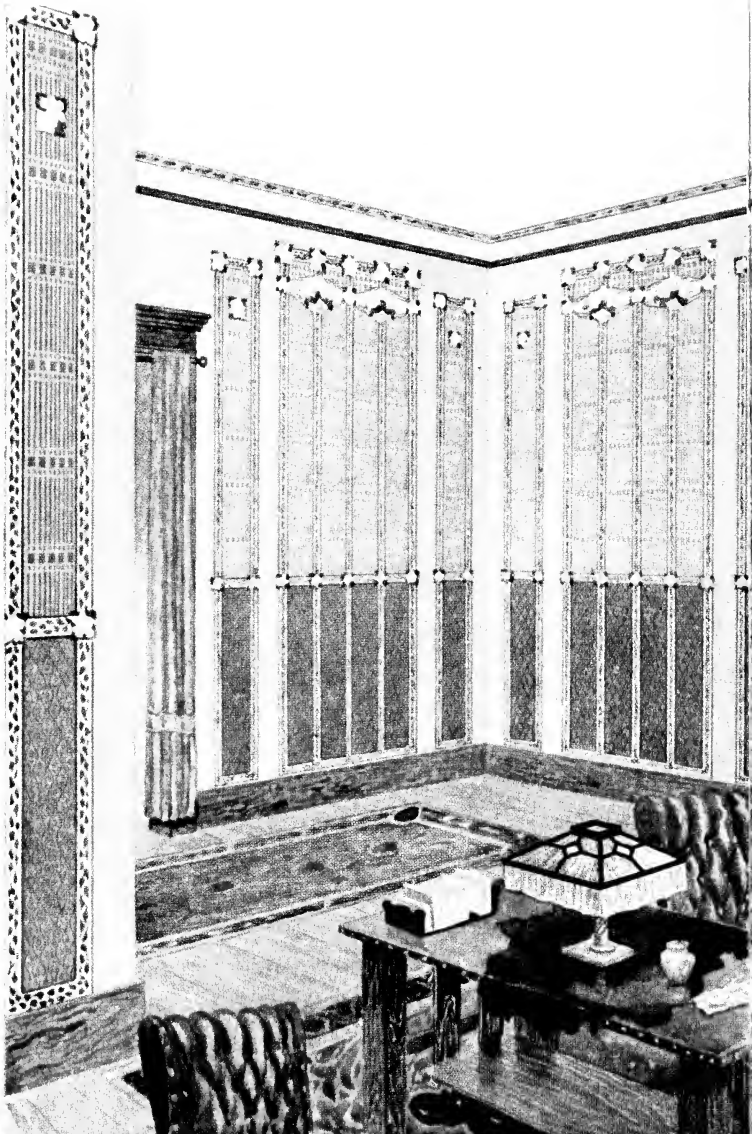
broad color effects, and yet at the same time to avoid the use of perfectly plain papers, which are not economical because they so readily show disfigurations from the unavoidable knocks which the walls almost always get, or the irregularity of the plaster, or stains due to the action of the lime in the walls or to dirt on the surface of the paper, almost all the wall paper manufacturers offer a more or less extensive line of fabric effects. Some of these imitate plain burlaps, denims or grass cloths, while in others these effects form a back-ground upon which conventional figures are powdered, or a more or less intricate all-over pattern appears in a darker tone of the background color, giving the effect of a woven or printed fabric. One of the most popular of these grounds, for bedroom decoration, is chambray, or linen effect, in almost all the colors that one would see the actual goods, such as blue, green, ox-blood, pink, brown—resembling, in some cases, a dark unbleached linen. These chambray papers are either used to cover the entire wall, with a narrow floral or landscape border at the top; or they may be used in panels, with some one of the narrow "binders," or floral or ribbon and bow-knot borders, that are found in almost every line of wall papers. Another treatment is to use the chambray paper for the lower two-thirds of the wall, capped with white enamel photograph rail—a narrow shelf-molding with a groove in the top for the purpose of holding photographs, with a picture moulding under-

neath. Above this rail there is a frieze treatment, formed by using a cretonne or chintz paper of an appropriate color. Many of these papers are made to match imported cretonnes and chintzes that can be used for the window hangings, giving a very dainty and attractive room. Again, a chambray paper may be used to cover the ceiling, and run down upon the side walls for a couple of feet, a floral cretonne or other figured paper being used for the base. For a small room with a low ceiling a very pretty effect may be obtained by running a plain chambray from the baseboard to the ceiling angle, a picture molding being used in lieu of a cornice. A few inches below the ceiling, one of the popular ribbon patterns, showing a ribbon about two inches wide with occasional bow-knots and roses, should be neatly cut from its white background and run round the room as a border. The ribbon, of course, should be of a contrasting color, as for example, pink on a light green ground; buff on a blue chambray, or blue on a pink ground.

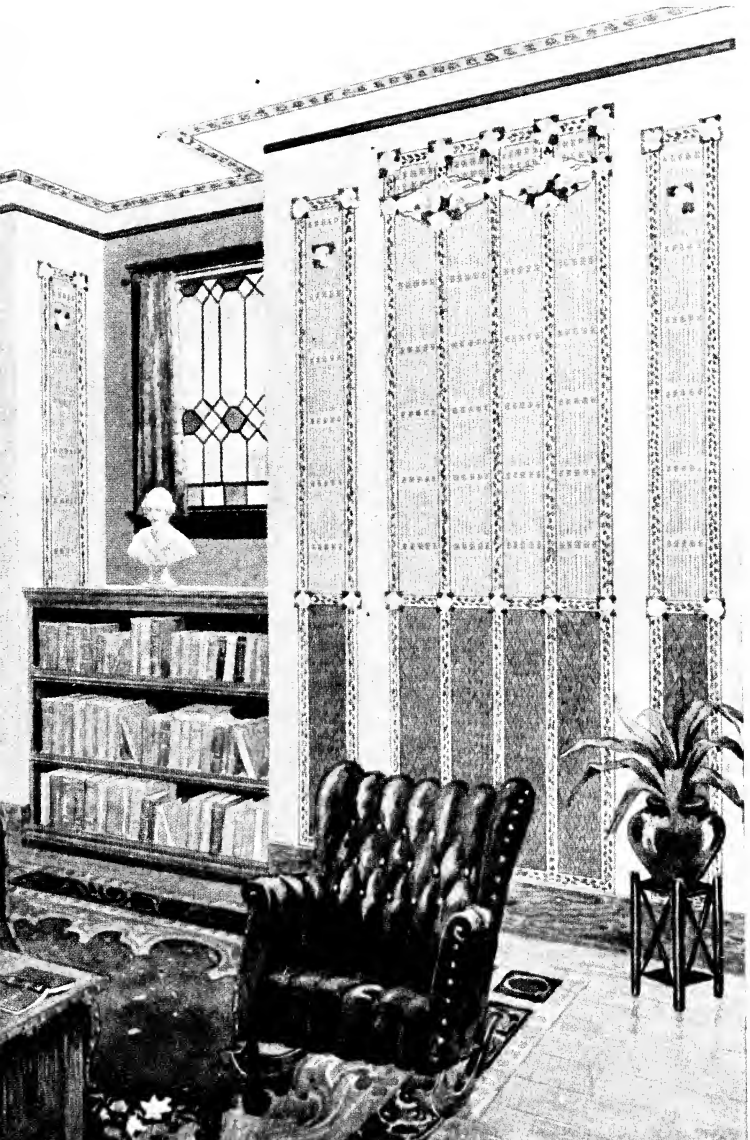
These chambray papers are also made with borders having the effect of white applique embroidery or white lace against a ground of the same fabric. Some of these lace borders may be used very appropriately for the purpose of forming large French panels. Or in a low room, the side wall may be a plain chambray with a lace border at the top and just above the baseboard.



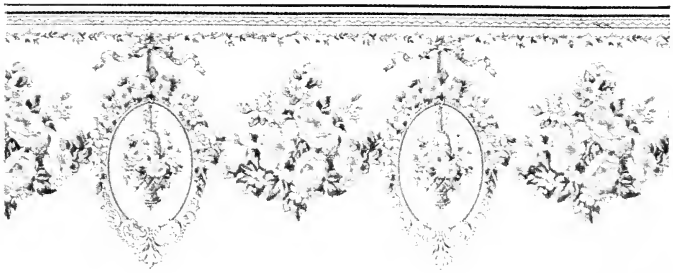
A hall decoration of novel design, consisting of a plain wall, vertical band and crown, all being of leatherette finish.



*For the* LIBRARY *or* LIVING ROOM



Showing the decorative possibilities of a simple sidewall and crown border, a stile and dado filling being used. The arrangement of panels may be varied to suit any space.



THE "cut-out" border is deservedly the most popular style of decoration for bedrooms. We have an attractive assortment, adaptable to any color scheme.

Another class of papers that are much used in making up original decorative treatments are what are known in the trade as "clothy" effects. These are two-toned papers in which small conventional figures are thickly sprinkled over a background one or two shades lighter in tone, giving the effect of woven goods, although there is no attempt to indicate the texture by overprinted lines as in tapestry or a chambray paper. The figures are simply printed in solid color upon a plain ground color. They are made in all grades of wall paper from blanks or flats—a cheap grade printed on white stock—to the more expensive ingrains or cartridge papers and the "duplex" papers, which have an ingrain face and a backing of a harder surface paper. Of course, in these latter papers, the resemblance to a cloth fabric is very much stronger than in the lower priced goods. But in all classes, the general decorative effect is excellent. These papers are especially suited for dadoes, or for panel fillers, or are well adapted for use with the independent pictorial friezes that can be obtained in such variety, both in the imported and American papers. These friezes may also be used very satisfactorily in combination with two-tone stripe papers. Some of these are very beautiful, having dull stripes alternating with others of a silky or satin like luster. Of course, the plain cartridge or ingrain papers meet with much favor, but they unfortunately are very apt to stain, and being colored in the pulp, instead of

having the color applied to the surface like ordinary papers, are very apt to run uneven in color, one edge of the roll being often a shade or two lighter than the other edge. As a consequence, if these papers are hung just as they are cut from the roll, with the same end toward the ceiling, a very disagreeable streaked effect will be observed. This can be obviated by the careful paper-hanger, who will cut two lengths of paper from the roll and reverse them, thus bringing the light edge of one length next to the light edge of the adjoining strip, and so on. By exercising care in matching the papers, the unevenness in the color will not be observed.

A striped paper is well adapted to produce a paneled effect, and the method of doing it is much simpler than where the panels require to be carefully laid out by the paper-hanger. Fig. 1 illustrates an effect that may be produced by a striped paper to form a paneled dado, or the panels may run the whole height of the room. The paper is first hung as shown on the right, the breadths running vertically from the top line of the dado, which is usually capped by a picture moulding or by a chair or plate rail, down to the baseboard. The finished panels are shown on the left. These are made by taking a breadth of the paper, shown on the left of Fig. 2, and cutting it as indicated by the line A, B, C, D, E, in a saw-tooth pattern, the angles being exactly forty-five degrees. In this case two strips are left on the edge of the

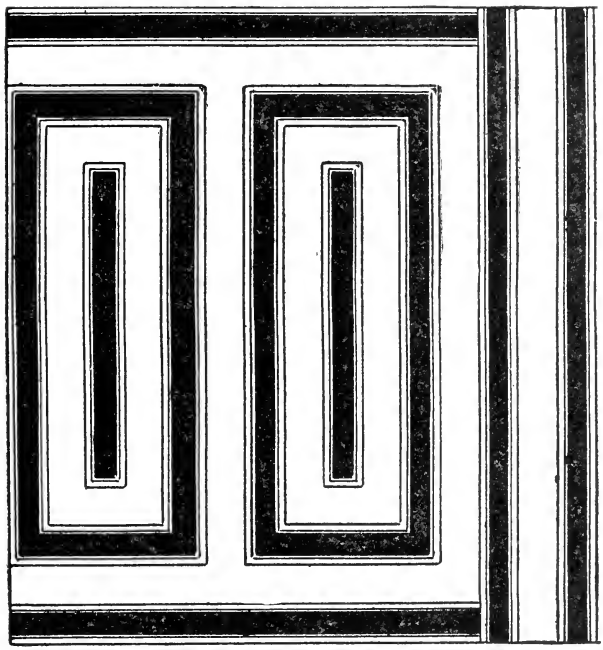


FIG. 1

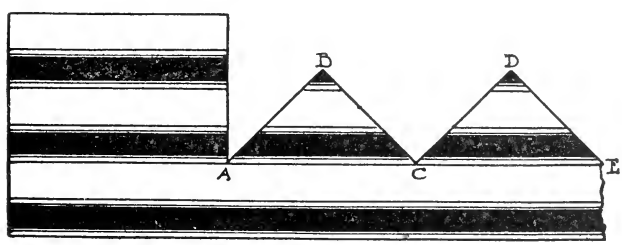



FIG. 2

paper in order to form a top and bottom border to the pattern above and below the stiling of the panels, but there is only need for leaving one stripe the base and cap being formed by the baseboard and the chair rail or picture moulding. The saw-tooth paper is hung over the paper that has already been hung, care being taken by the paper-hanger to get the miters true, which is easily done, for all wall paper is capable of shifting and stretching slightly.

Where the increased expense does not prove a detriment, grass cloth is one of the most beautiful wall decorations, where broad, single color effects are desired. This material is imported from Japan, and as its name indicates, is a fabric woven from some of the fine grasses or materials of that nature found in that country, and mounted on light yet very tough paper. The total thickness is about the same as that of a heavy ingrain paper. It is very pliable and just as easily cut and trimmed as any high-class wall paper. It comes in all the prevailing decorative colors, and owing to its texture, there is a very pretty play of color over the surface, which makes it particularly effective. The writer recently saw a very attractive parlor in a suburban house, the walls of which were hung with green grass cloth. About two feet below the rather low ceiling a white enamelled photograph and picture rail was used, that served as a resting place for small pictures, plaster casts, bits of pottery and other small pieces of bric-a-brac. A

two-inch white molding served to break the angle of the ceiling, which was tinted a cream white. The plain green surface of the lower wall made an excellent background for a number of good pictures.

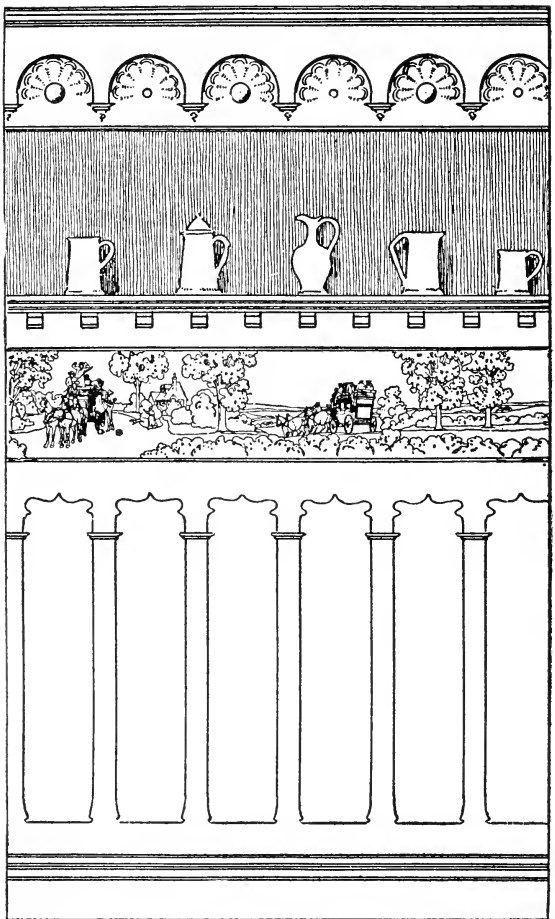
In regard to cut-out ornaments, a New York wall paper house has recently brought out some very beautiful lithographed ornaments of this character that are sold ready cut out. Those already introduced show swags of flowers, with cupids, baskets of flowers, bouquets, of roses and the like, suspended within the swag. These paterns are made eighteen inches wide, or just the width of ordinary wall paper after it is trimmed, and they can, of course, be used on any color or kind of background, from a plain tint or a mica or silk stripe to a chambray. Of course they would not look well on a figured back-ground, and being themselves printed in delicate colors, naturally look best when used upon light back-grounds.

The pictorial friezes already spoken of can be used in a great many original ways by the decorator who is awake to their possibilities. We illustrate a suggestion in which a coaching frieze is utilized in the decoration of a dining room. This frieze is made in six-foot lithographed sections, printed in oil colors. Each section is different and the complete design is thirty feet long before it repeats. The sections may be used indiscriminately, in any order preferred so that practically there is not a continued repetition in the room.

In the decorative treatment illustrated, the frieze forms the key-note of the design and is used as the crowning feature of the tall panelled dado, which can be made of wood, or the panels may be filled with buckram or burlap and the stiling only made of wood. The dado is capped with a shelf molding that serves as a resting place for steins and jugs, the upper portion of the wall being hung with a grass cloth. The cornice is made up of a series of arches, with plaster or plastic relief shell ornaments, and under every other arch is an electric-light bulb. This cornice should be in ivory white, of the tone of old ivory, the ceiling being somewhat lighter. The wainscot and the other woodwork of the room may either be in forest green or fumed oak or may be finished in white or ivory enamel.

Some of the pictorial friezes are well adapted for cutting into short lengths, framing them up with narrow borders of wall paper binders, and centering them in the upper part of large French panels.

Pictorial friezes are made with what are known as extensions. For example, on one roll may be printed a series of pictures of hunters in red coats leaping a five-barred fence, with a pack of hounds, in full cry, after a fox or deer, while another roll is a forest scene without figures. The decorator may space his huntsman at will upon the wall, depending upon the shape and size of the room, filling in the space between them with the forest extension. The



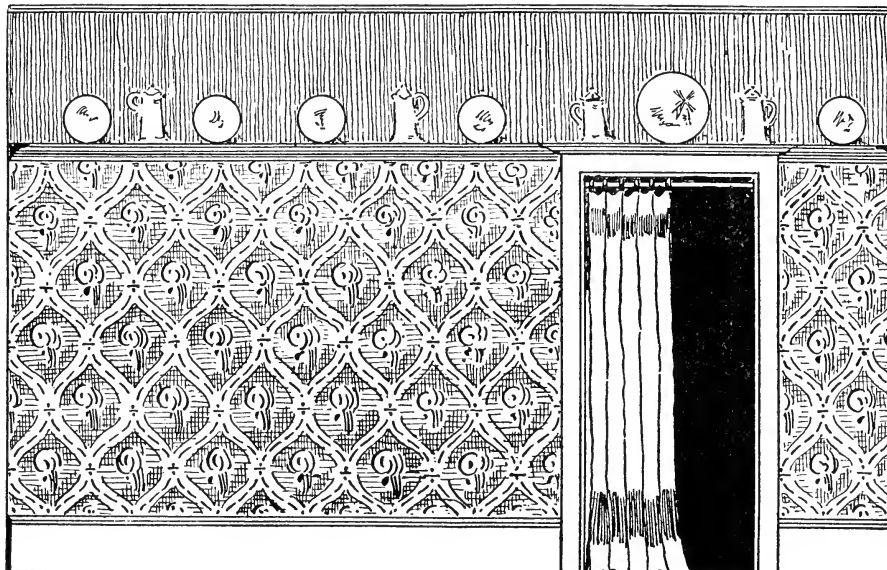
DINING ROOM DECORATION

Coaching frieze used over paneled dado, capped with shelf mould; upper portion of wall hung with glass cloth; cornice, a series of arches with plastic relief shell ornaments.

writer recently saw a den decorated with a pictorial frieze of this character. The ceiling was covered with a mustard yellow ingrain paper, and a breadth of this paper, which was twenty-one inches wide, was run round the room, instead of up and down, just below the frieze. Below this was a photograph rail, while the lower portion of the wall was a striped Oriental tapestry effect, the principal color-tone of which was red. This merely gives a suggestion for the use of these extension friezes, which are made in many different designs, and characters of subjects.

The cut-out poster friezes for dens and nurseries also offer many opportunities for original treatment. These come in sheets or panels, the figures from which are to be cut out and arranged at will against a plain ground, for in these poster pictures, backgrounds are looked upon as superfluous. Of course, a little ingenuity enables the decorator to tell a story with the pictures that will interest children in the nursery or please the grown people in the den.

**Papering the Hall.**—Every house that is built presents as a puzzling and perplexing problem to the decorator in the treatment of the wall along the rake of the stairs. The difficulty does not lie alone with the fact that the lines are angular, because the space included in a gable does not present such a perplexing problem, on account of it being symmetrical. A triangular space is not necessarily difficult to treat,



SIMPLE BUT EFFECTIVE TREATMENT OF WALL IN DINING ROOM OR DEN BY USE OF DECORATIVE MOULDINGS.

Upper third a plain ingrain or burlap pattern; side wall in large figure imitation leather or stained duplex paper.

because a special form of ornament can always be designed to fill it, but the staircase wall adds to the sloping line the fact that any decoration which is to be employed on this wall must at the same time be carried along the level walls of the hall in each story and across the level spaces at the landings. Where posts are introduced by the architect, they form a natural break, which the decorator may take advantage of, but, unfortunately, such posts are seldom used on the flat wall surface, hence the decorator is compelled to meet the problem of carrying up the rake of the stairs, without a break, the same ornament which is used on the hall walls, or else he must stop it abruptly, without any apparent reason for doing so. To add to the difficulty, in many houses the ceiling line makes a sudden break over the start of the stair where the well begins, and the side wall, which is only nine feet high, suddenly becomes a blank wall space of eighteen or nineteen feet in height. In such a case there seems no alternative to stopping the frieze at the break, even though such stoppage may be difficult on account of the design being a continuous one, without any good method of terminating it. This is almost always the case with the ordinary wall paper or stenciled border, unless it happens to be such a pattern that a panel or other natural break occurs at regular intervals. To overcome this difficulty, the paper-hanger should lay out his work from this break in the level, selecting the best point

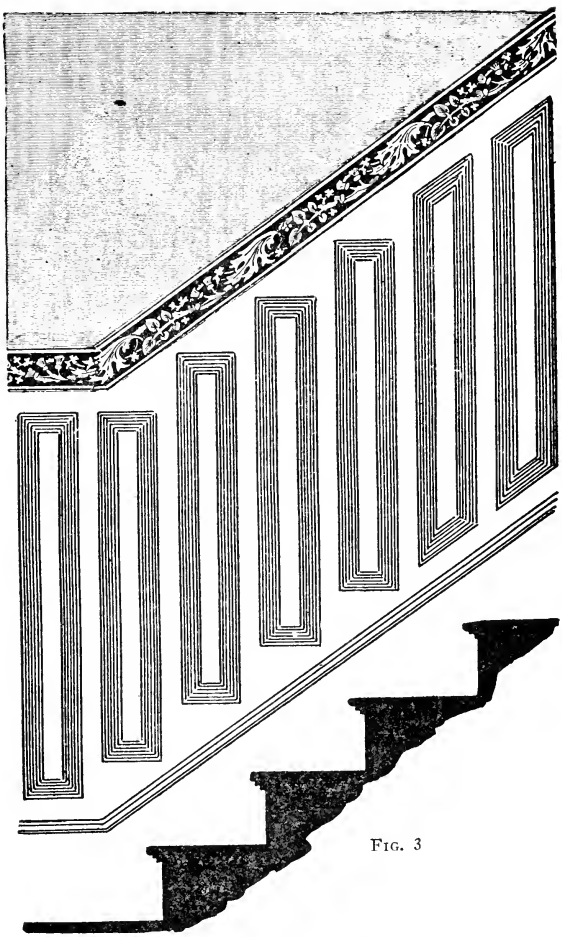


FIG. 3

STAIR HALL DECORATION.

Panels in dado should be perpendicular and form a series of breaks or steps, as at left; the two panels shown at right are faulty.

for cutting the border, and run away from the stairs, instead of beginning at the door and running toward the stairs, letting the border stop as it will.

Where a picture moulding is used, another difficult problem is presented. If the moulding follows the rake of the stairs, it serves no practical purpose, but is merely ornamental; yet if, on the contrary, it is carried along the level, so that pictures may be suspended from it at any point, it will run against the baseboard, if continued far enough. In general, it is wiser to carry the picture moulding along the slope, and let it serve merely as a divider between the frieze and wall or a break of the ceiling angle. Where an upper third treatment is used, this problem of the picture moulding becomes of great importance, and what to do with the side wall at the point where the stair begins is very difficult to determine. It is almost impossible to lay down any general rule for the treatment at this point, but the decorator must be governed by common sense and take the special conditions into account. Sometimes the divisions may be made along a series of right angled breaks, like large steps.

Many very attractive frieze and border designs are not adapted for carrying up the rake of the stairs, because they require to be vertical in order to view them properly. A pictorial frieze looks absurd when it is hung upon a sloping line, and so would a design that introduces the Empire torch or a basket of flow-

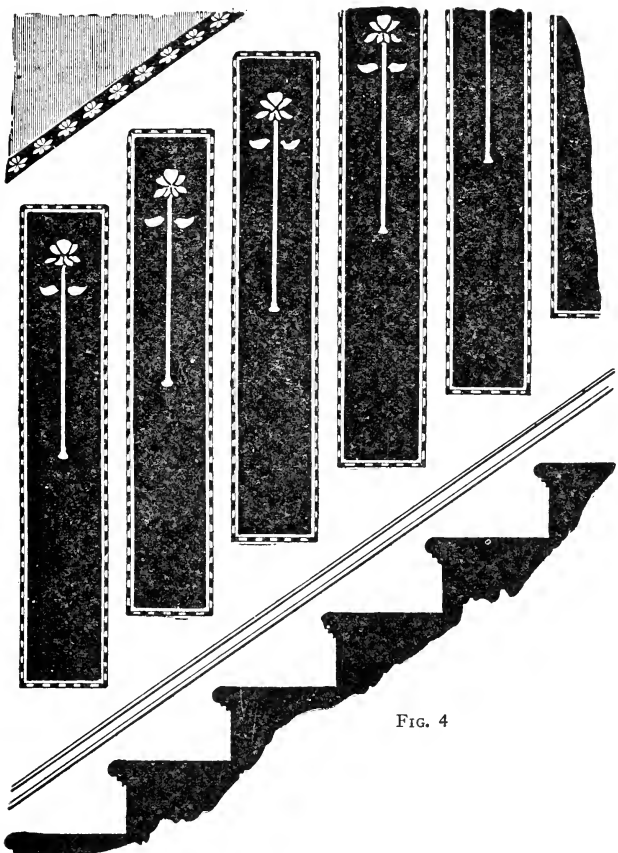
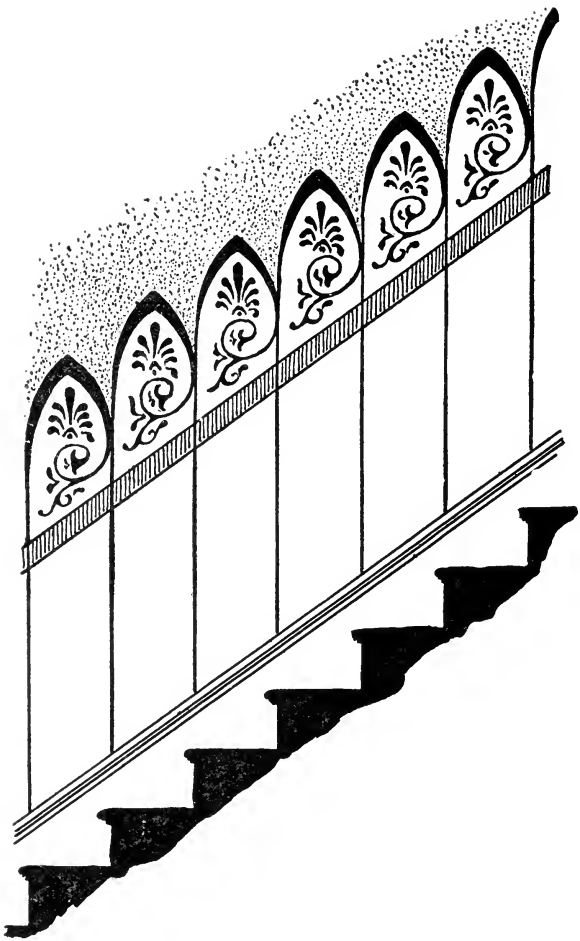


FIG. 4

EFFECTIVE TREATMENT OF DADO PANELS IN STAIR HALL DECORATION.

ers suspended by a ribbon. Such a design, when following the slope, gives one the feeling of being on a ship at sea that has been tossed on a wave and is held in the grip of a frozen storm, which prevents it from ever regaining its equilibrium. Better by far to stop a border of this character at the end of the level stretch and let the sloping wall go undecorated. Where an upper third treatment is used, the pattern can, of course, always be hung vertical, and this difficulty is not met with.

A panel dado also presents many difficulties. For example let us consider the dado shown in Fig. 3, which is formed by using a two-toned stripe wall paper, cutting it at the top and base in miters, to give a paneled effect. If the panels are made like the two shown on the right of the sketch, although this presents the fewest mechanical difficulties for the paper-hanger, the appearance is given of a series of panels that seem to be constantly sliding down hill. This fault is often met with in wood paneling, but perhaps does not impress one so much in wood, on account of the rigidity of the material, as it does when wall paper decorations are employed. It is much better to arrange the panels to form a series of breaks or steps, as shown on the left. When this is done it will be necessary to match up a plain paper, using triangular pieces to fill in the gaps in the stiling. The border that caps the dado also presents the difficulty of mitering at a different angle than a right



EFFECTIVE TREATMENT OF DADO IN STAIR HALL DECORATION.

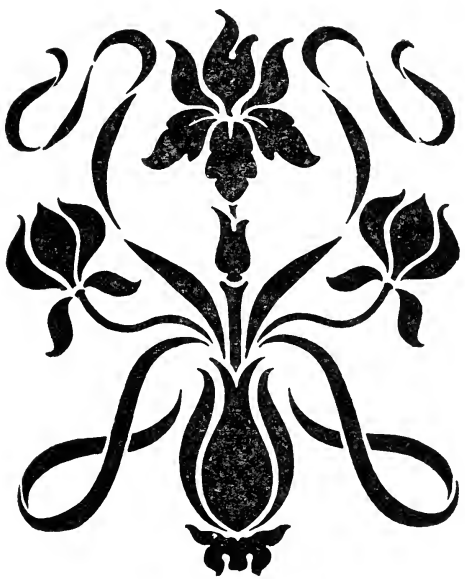
Stencil design based on Greek honeysuckle ornament.

angle, and particular care must be taken, whenever possible, to so arrange the break that the pattern will hide the cutting. This requires considerable ingenuity, but it can generally be accomplished to a greater or less extent.

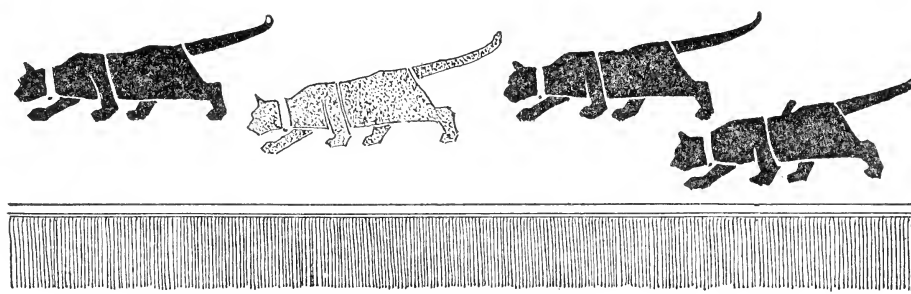
The advantage of this treatment is much more evident in Fig. 4, which shows a design that may be executed either in wall paper or by means of stencils. Here the panels are so arranged that one comes above each tread of the stairs. If the panels sloped, the floral figures in the centre of each would look unbalanced, and this would be even more noticeable in the case of a square set figure, or a heraldic pattern or shield. While considering this design, it might be well to suggest a suitable color treatment. The long panels might be either in bright red, or in a strong, deep, rich blue, against which as a background, the stencil can be done in ivory white or gold bronze, either of which would show very well indeed. The same coloring would be used for the narrow border at the top of the dado, which takes the place of a moulding. The upper wall could be in a tone of gray or deep straw color.

When we come to the use of stencils, many original treatments can be introduced effectively. For example, we illustrate a design based on the Greek honeysuckle ornament, which would look very effective indeed for a side wall treatment. The pattern terminates in a series of pointed figures that rise

one above the other as they follow the slope of the stairs. The vertical lines serve to connect the design with the baseboard in such a way as to carry up the lines of the stair risers and show at a glance the reason for the peculiar treatment. The band of color below the ornament serves to bind the whole design together. The Art Noveau style is full of motives for decoration which are particularly suitable for carrying up the rake of a staircase, the long stems of the flowers and the flowing lines adapting themselves remarkably well to an irregular space such as will be found here.



STENCILED FRIEZE SUITABLE FOR LIBRARY OR DINING ROOM.



NOVEL EFFECT IN STENCILED FRIEZE DECORATION FOR DEN, NURSERY, OR DINING ROOM.

## STENCILING

The art of stenciling is almost as old as that of decoration itself, although in its earlier forms it was but a crude and clumsy method for the duplication of a design. Nevertheless, the idea is such an elementary one that it was early conceived that a design might be indefinitely repeated if it were cut in a thin sheet of metal, or any other substance, such as paper, parchment or the like, and the paint brushed on the surface to be decorated, through the openings or perforations left in the stencil plate. Stenciling was much used in medieval work, but began to be neglected in Europe at the time of the Renaissance, when decorative art was copied from the classic style rather than originating with the workman. The churches and palaces were ornamented with original paintings by great masters, while the people's homes went bare.

But as time passed on and the people began to grow richer, they demanded ornament in their houses; and the art of stenciling was again revived as a decoration. It was originally crude in design and usually consisted of an attempt to imitate those forms of ornament which would be difficult to paint, except in free-hand work. In order to overcome the mechanical difficulties of making the stencil, the ties that are necessary to hold the parts together were left wherever they might be needed for strength,

and hence became mere meaningless breaks in the continuity of the ornament, which must necessarily be touched out by hand before the design was perfect. As this added materially to the expense, the ordinary stencil borders and other ornamental work in moderate priced dwelling houses, and even in the churches and public buildings, up to a comparatively recent period, were crude in design, and inartistic in character and finish.

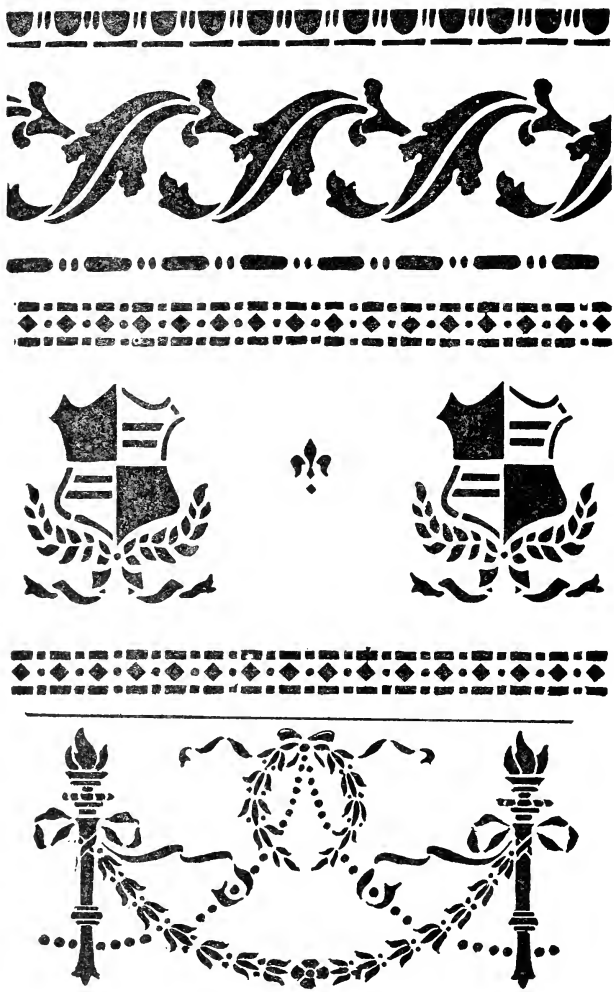
When Japanese art began to be popular, about thirty years ago, it was found that these clever little brown men of the East had carried the art of stencil cutting and reproduction by means of stencils to a stage of perfection which we have been unable to equal even yet. The most intricate ornamental designs, pictures of men, birds and fishes, are all reproduced by means of stencils, with a delicacy that the clumsier fingers of the Western peoples cannot hope to imitate. Nevertheless our designers have been able to study the principles of design used by the Japanese, and by applying them, the art of stenciling has advanced wonderfully within the past score of years. It was seen that the Japanese so designed their ornaments which were to be reproduced by stenciling that the ties formed a natural part of the design, rather than a break across places which should be continuous. In other words, they adapted the design of their ornament to the limitations of the stencil, instead of making an attempt to produce or-

nament by stenciling that is adapted only for free-hand reproduction. The growth of the New Art, which had its origin with William Morris and has since been wonderfully developed both in England, Germany and France, and has been the actuating spirit in the Mission and the Craftsman styles in this country, has given a great impetus to stencil decoration, since the spirit of the new art is to let the construction be frank.

Stencil decoration, although a mechanical method of reproduction, is nevertheless capable of greater individuality in both its treatment and its execution than any other method of ornamentation except actual free-hand painting. Not only is it possible for the decorator to design and cut his own stencils to suit the requirement of the work in hand, and so impress his own originality on their design—a thing he cannot do with wall paper or other applied ornament—but by varying the color and the methods of handling the brush, he can produce many different treatments with the same stencil, and can change the effect very much in different parts of the same room, when desirable. The interest taken by decorators and the public alike, in this new art of stenciling, has made it possible to obtain high class cut paper stencils adapted to all purposes and in almost all the period styles. There are several stencil designers, principally in New York and Chicago, who make a business of supplying decorators with these stencils,

ready cut, and who not only issue catalogues containing large numbers of designs which will be cut and supplied on short notice, but who will also design a special decoration for any room and will furnish all the necessary stencils for it as well as a color scheme, if desired.

**Using the Stencil.**—The stencils used by decorators are usually cut from a tough manila paper that has been treated so that it will not be affected by either oil or water color paint. A tough and not too heavy paper should be selected, such as architects use for making detailed drawings, and saturated with boiled linseed oil, after which it should be hung up until thoroughly dry. Then a thin coat of shellac varnish should be applied to both sides of the paper. This treatment makes the paper very tough and durable, while the shellac makes it impervious to the color. Some painters use an ordinary oil paint instead of shellac. Ready prepared paper may be bought, if the designer does not care to go to the trouble of making it for himself. Where stencils are subjected to a great deal of rough use, such as those used in railroad car shops that are employed for lettering freight cars, they are sometimes made of shadecloth or of this material fastened to a paper backing by means of shellac, and then painted both on the face and back. These stencils, however, lack the delicacy of the cut paper stencils first described, because their



EFFECTIVE STENCIL DESIGNS FOR FRIEZES.

greater thickness makes it more difficult for the operator to get the brush down into the corners of the design, which therefore lacks sharpness.

In using a border or frieze stencil, a chalk line should first be snapped around the room as a guide line. Some decorators prefer to use charcoal instead of chalk, because the latter leaves a mark of a somewhat greasy nature, which is difficult to erase, while charcoal may readily be dusted off. Moreover, the chalk has a tendency to cause peeling in the paint. Where a design is continuous, as in the case of a border, it is sometimes the custom to punch four quarter-inch holes, at the corners of a rectangle, the sides of which are the repeat lines of the design, produced above and below the pattern, as guides or register marks, the same as are used in color printing. This is needed when two or more stencils of different colors are used; but where only a single stencil is employed, it is not required if the same opening occurs at both the right and the left ends of the stencil. It is merely necessary to see that the opening at the left exactly covers the last portion of the ornament to the right of that already stenciled, in order to get the distance that the stencil is to be moved to the right; while notches cut in the edges of the stencil to the right and left, and kept on the chalk line, will insure the pattern running straight or level. In any but the smallest patterns the stencil should be secured by two or more push pins or thumb tacks

to insure that it is not moved during the operation of stenciling.

In order to insure sharp outlines, the stencil must be cleaned off occasionally with a rag dampened with turpentine or benzine, if using oil paint, or with a rag dampened with water if using water color. Lay the plate face down on a piece of clean paper laid

FIG. 5

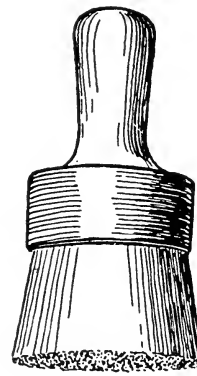


FIG. 6

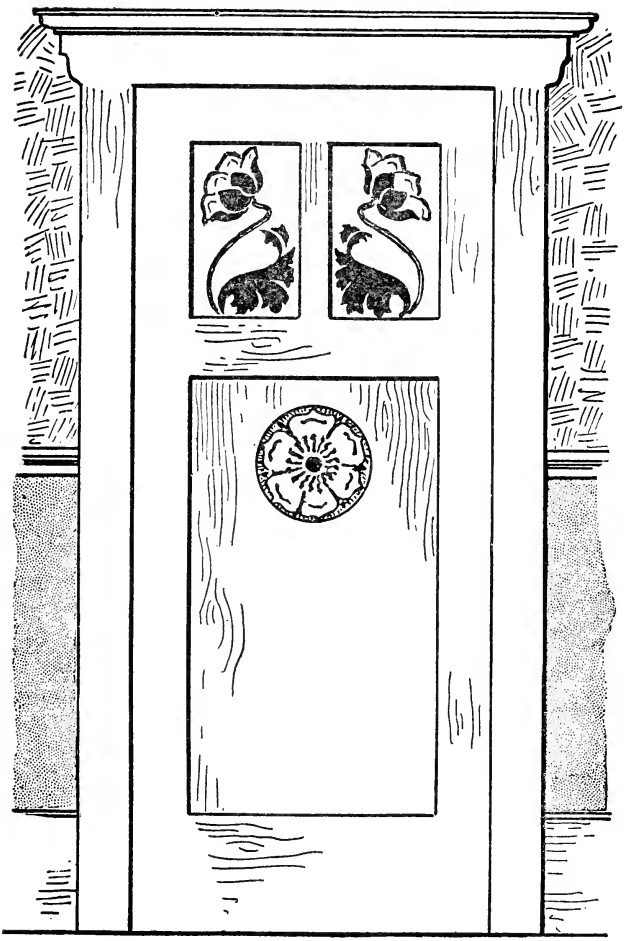
on a table, exposing the smeared side of the stencil, and gathering the rag into a bunch so that the edges will not catch on the stencil, rub carefully with a circular movement. When the work is finished, the stencil should be carefully cleaned before putting away.

The brushes used for stenciling should have flat

or square ends, and are indicated in Figs. 5 and 6. Special brushes are made for the purpose by all manufacturers of paint brushes. For small work, where a special brush is not obtainable, a shaving brush may be cut off so as to have a flat end. For large stencils, special brushes are made, shaped like shown in Fig. 6. In any case, the handle should be short, the brush being held between the thumb and middle finger, with the fore finger on the end of the handle. Held in this position, the workman is soon able to judge by the sense of touch whether the paint is being properly applied or not. Japanese brushes made of soft fine hair can be obtained that are much better than ordinary bristle brushes.

Whether oil or water colors are used, the paint must be mixed stouter or thicker than for ordinary painting, or say about the consistency of thick cream or thin paste. The paint must not be very quick drying, except for textile fabrics or other surfaces that have not been newly painted. The paint must be strained through wire gauze or cheese cloth before using, in order to avoid lumps of any kind.

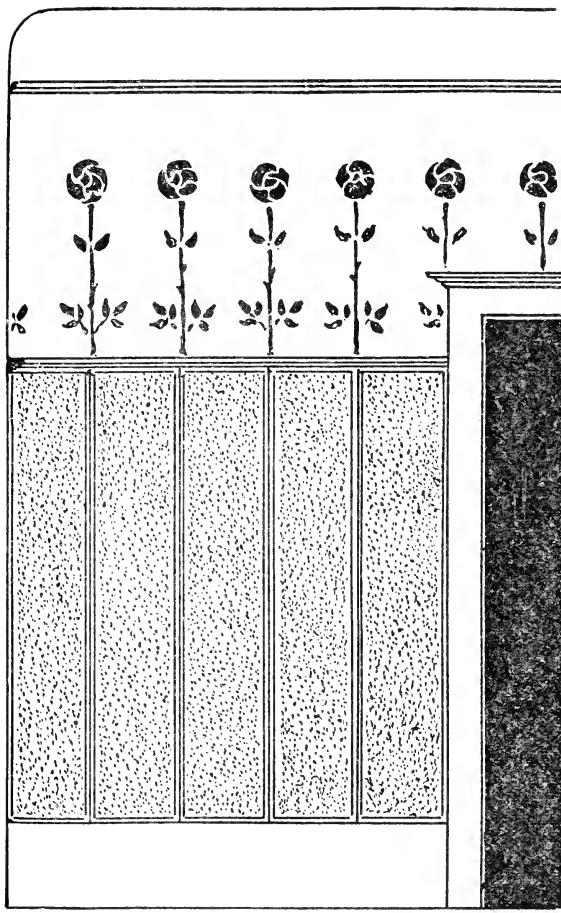
The stencil brush, which must be clean and dry, to begin with, is dipped lightly in the paint and then rubbed two or three times on a pallette or piece of stout paper that must be kept handy, in order to remove any surplus paint in the brush. The paint is applied by a gentle hammering or tapping of the brush, known as "stippling." The brush must not be



DECORATIVE SCHEME FOR DOOR, ART NOUVEAU STYLE.

rubbed as in ordinary painting or the color will be scraped off and carried under the edge of the stencil, giving smeared or wooly edges, such as one sees on boxes when they have been carelessly lettered by means of brass stencils. The stippling should be started on the largest openings, where too much color on the brush will not be so disastrous as it would be on the smaller openings and the brush must be worked from the edges toward the centre in every case. Whenever practicable, keep the edge of the opening under the brush, and never brush toward the edge or the color will run under it. The smaller details of the design should be finished with a very moderately charged brush. Before lifting the stencil, it should be carefuly examined to see whether any place has been left uncolored, especially in the sharp corners and angles. Defects of this kind are much more apparent after the stencil has been lifted than before, so great care must be exercised. The plate must be lifted very carefully, after the pins have been removed, in order to avoid sliding the stencil over the wet paint and producing streaks and smears.

Very beautiful effects can be obtained by the use of two colors on the same stencil, using two brushes and blending one color into the other. Or different parts of the design may be stenciled into different colors. Odd and beautiful effects are sometimes obtained by wiping out a portion of the color, here and



USE OF TALL, NARROW PANELS TO FORM A HIGH WAINSCOT

Panels formed by scotia mouldings of hardwood, upper part stenciled with stiff conventional roses, a moulding used at base of cove cornice

there, by means of a soft cotton rag held over the thumb. This must be done while the stencil plate still remains on the work.

Stenciling may also be done by means of a spraying apparatus. This gives very soft results, especially with water colors. Where the special apparatus made for this purpose is not obtainable, an atomizer, such as is used for spraying perfumes, can be employed. It can be obtained at small cost at any drug store. For this, a thin and very fluid color will be needed to avoid clogging, and Diamond dyes have been recommended.

**Cutting Stencils.**—Before cutting a stencil, the design should be transferred to the stencil paper by means of a carbon transfer sheet, such as is used for duplicating on the typewriter. This is laid, face downward, on the stencil sheet, and the design is pinned down above it, face upward. Its outlines are then followed with a sharp, hard lead pencil. On removing the design and carbon sheet, the outlines will be found transferred to the stencil sheet. The cutting must be done with the sharp point of a knife, held in the position indicated by Fig. 7, always cutting toward the operator. The surface to cut on must be either a sheet of glass or zinc, the former being preferable. An oilstone must be kept at hand and the knife sharpened frequently. A pocket knife with a short, stiff blade, of the shape indicated, may

be used for cutting. A shoe knife, or one of the knives used by bookkeepers for erasing, can be employed if desired. A clean, sharp cut must always be made, and the stencil paper should be turned as the work progresses.

Fig. 8 indicates a sheet of stencil paper with a design of a modified fleur-de-lis cut in it, while Fig. 9 shows the same design as it would appear when stenciled.

FIG. 7

**Suggestions for Simple Stencils.**—While stencil decoration may be of the most elaborate character, it will be sufficient, for the purpose of this book, to illustrate only a few simple stencils, rather as types than for any other purpose. A number of narrow bor-

ders are shown by Fig. 10. "A" shows a border made up of a series of circles, alternately larger and smaller. These can either be cut out by a knife, as already described; in which case they will be slightly irregular, or they may be punched with steel punches that can be obtained in a number of sizes, varying by an eighth inch in diameter. In making a stencil plate for a border of this kind, from a foot to eighteen

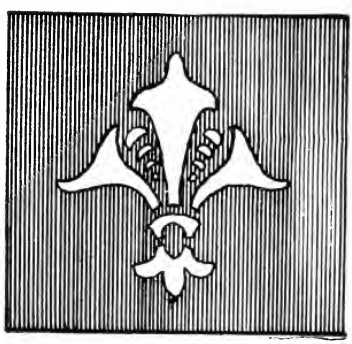


FIG. 8

FIG. 9

inches should be made, in order to save time in stenciling.

A very useful border, that can frequently be combined with other designs as a part of an elaborate frieze, is shown at "B." "C" gives a hint for another border of a simple type that is capable of many variations. Diamonds or squares may take the place of the triangular figures, or three or more bars may be employed, instead of two, as shown.

Mosaic patterns are specially adapted for simple stenciling, types of them being shown by "D." These may be further elaborated into Greek fret and other complicated designs, all based on the repetition of squares. For work near the eye the squares should be from a half to three-quarters of an inch. These few borders will show that it is possible to build up quite elaborate schemes of decoration from

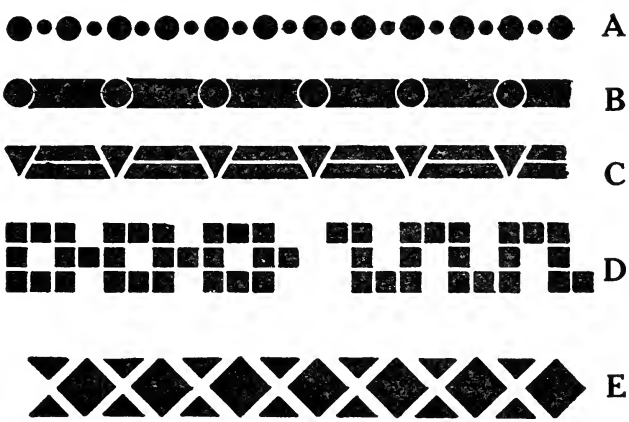



FIG. 10

very simple elements, when used in differing combinations or arrangements.

A type of stencil that is very effective is known as the background stencil, because the background is stenciled in, and the design stands out upon it in the ground color to which the stenciling has been applied. E shows a simple border of this type that

is very effective. A lattice pattern may be made up of the same general character. Fig. 11 is a much more elaborate border, based on the principle of the background stencil. In a design of this kind, care must be exercised to make it of such a character that the strength of the paper will not be impaired by too much cutting away. Angles projecting into the openings must also be avoided as much as possible. It will be noticed that any design suited for a back-

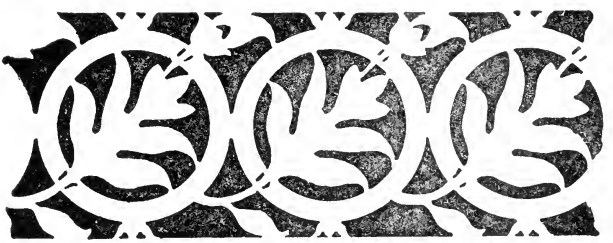
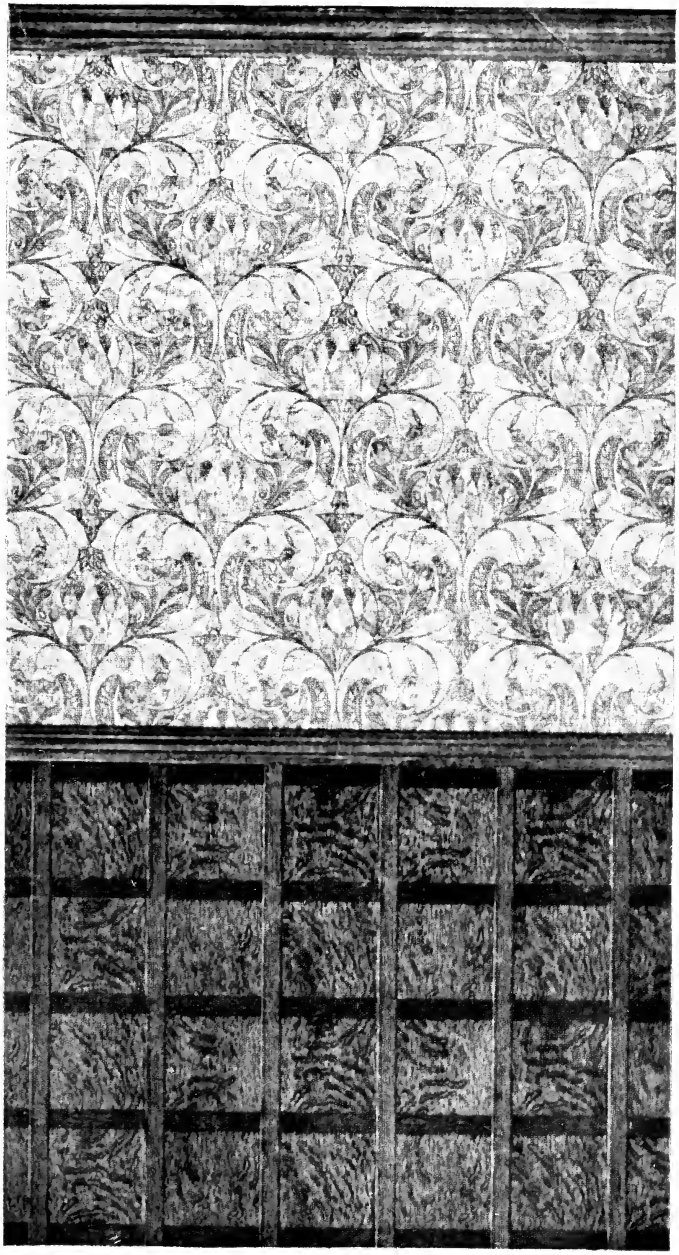


Fig. 11

ground stencil is also adapted for executing in fret-work.

We have hinted in this book at only a few of the possibilities that can be achieved by the painter and paper-hanger who uses modern inexpensive materials, and have endeavored to suggest how easy it is for the man with ideas to get results out of the commonplace. In the various full page plates given in this book the reader will see many examples of artistic decoration that can be done with a moderate expenditure of money.



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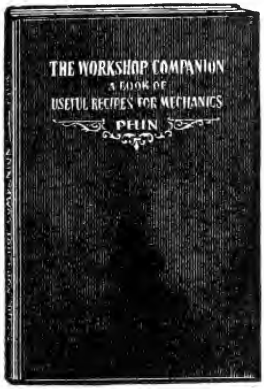


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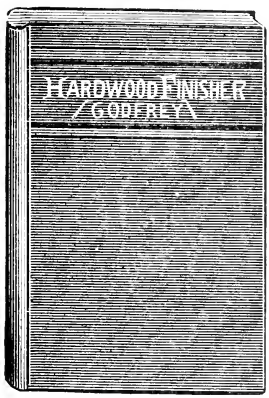


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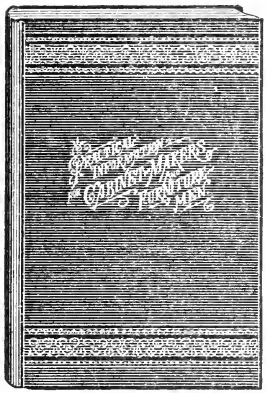

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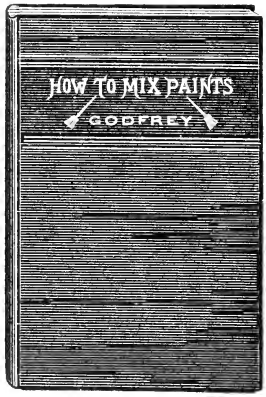


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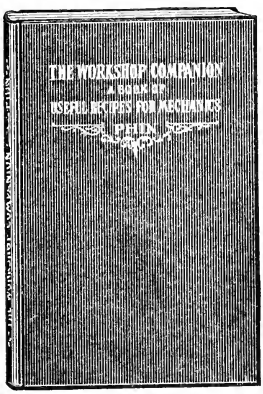


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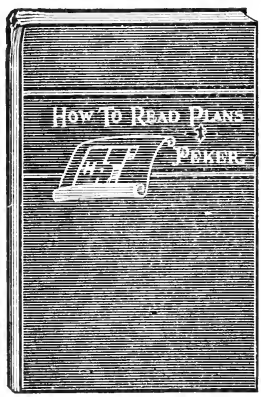


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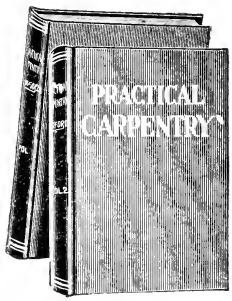


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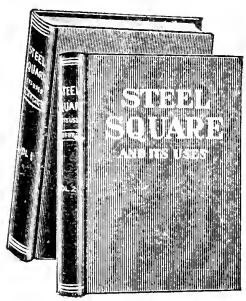


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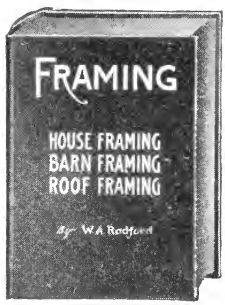


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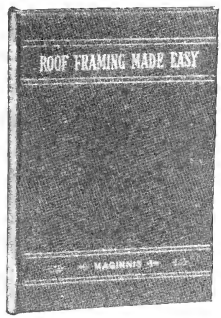


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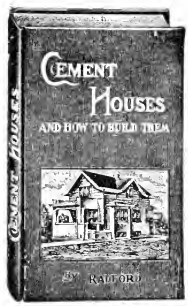


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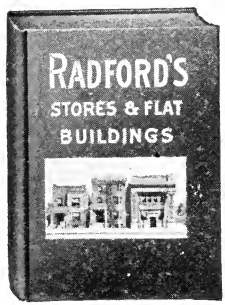


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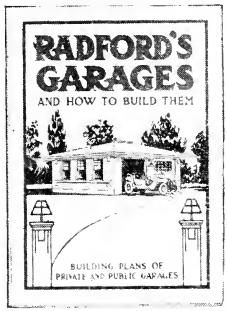


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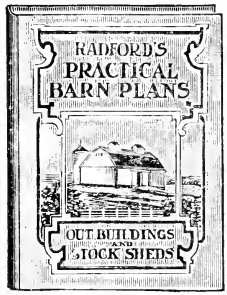


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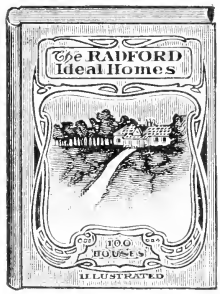


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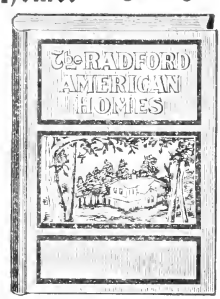


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